# THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

*WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."*

VOL. CXXIII.—No. 4140. AUGUST 11, 1922.

## A PLEA FOR ELECTRICITY.

ALL human progress is based on human endeavour, and Darwin's theory of the survival of the fittest has a wide application in the affairs of man. In the time of our fathers the struggle for existence was not the strenuous struggle which we find it to-day, but on the other hand the means for carrying on that struggle were very much more primitive than those now at our disposal. Half-a-century ago the rate at which it was necessary to employ vital energy in order to survive in comparative comfort was small, while to-day the keen fight with our fellow man often saps our vitality in youth and leaves us at the mercy of old age when it comes. The aftermath of the war has very much accentuated the position, and anything that can alleviate it should be studied and fostered. We can probably do little directly to increase our vital powers, but we can do much indirectly by drawing upon the various forms of energy supplied by Nature, which are capable not only of saving mere muscular energy but of facilitating our daily work and thus increasing our time of leisure and physical and mental opportunities for recuperation.

Of all the forms of energy there is none so applicable to the varied needs of every day as electricity. To take the vital question of transmission. This, in the case of mechanical energy, is limited almost to yards; the direct transmission of heat is also limited; but with a wire the size of a lead pencil electrical energy can be transmitted in quantity for miles, and it is not too much to say that the discovery that electricity could be produced, through the medium of the steam engine and dynamo, from the burning of fuel has had more effect upon humanity than any other of the revelations extracted from Nature by the men of science. Many of us can remember the appearance of the first arc lamps and the early dynamos now relegated to museums or the scrap heap, and how the power installations from small beginnings increased to give us enormous potentials and currents, and we need not go back beyond the "eighties" for the practical beginning of the wonderful network of organisations now concerned with the production, requirements, and sale of this source of energy.

We are so used to electricity for lighting, heavy power work, and telephones that we have quite ceased to regard it as anything wonderful, and yet with all this progress is there not an extraordinary lack of wider possibilities for which humanity, unvoiced, is waiting? Like most things, especially in our own country, the application of electricity has "just growed"; no tending hand has guided it or controlled it so that its developments might be properly co-ordinated. The short-sighted policy of the past was in fact solely in the direction of isolation. A new company in the old days, as far as we can judge, delighted in producing electricity of some phase or voltage likely to make it quite impossible for users of rotary apparatus to be otherwise than at their mercy. There was no large idea, no thought of the common good by common action. The result, as any far-seeing person might have expected, has been the very negation of progress, and we now find the country littered with systems which, by producing the direst confusion, make the development of cheap electricity most difficult. This, of course, is well known, and was well known even before the Commissioners began their labours; our plea is that we, and we mean the nation as well as the vendors of energy, may be ready for better things, and ready also to recognise that some individual interests and, indeed, some wide local interests must for the time be sunk in the process of extricating the industry from its chaotic position. There are great schemes afoot, and probably one of the first which we shall see brought to fruition is in the north of our progressive Principality. There will be a tendency in these developments to shrink at capital sacrifice, but we should remember the way to improve a bad situation involves drastic remedies. We are reminded of the American who, after the discovery of some new and more efficient plant, one day entered his recently remodelled machine shops and said to his aghast manager, "Before next year all this machinery must be scrapped." He knew that a tremendous capital loss would pay in the long run.

It would almost seem that electricity properly organised and lavishly available is likely to be the main material hope of posterity. When our coal supplies are exhausted, which seems within measurable distance, our only means of extracting our necessary energy in substantial quantity will be through electricity derived from water-power, the heat of the earth or sun, or from the tides.

But to return to material everyday requirements. We want to see electricity available in every household, not only for lighting and heating but for power: power on a small scale to save domestic muscular energy, for which it is peculiarly suited. In this respect the existing corporations and private companies appear to be much to blame, and exceedingly short-sighted. Here they have large capital, the greater part of which is standing idle during daylight hours. Universally the cry is for greater day loads to equalise output, and yet what facilities do they offer to the householder who, in the aggregate, is of probably as much importance as all the factories put together? He usually has installation expenses to pay and the rent of a meter, and in addition has to purchase his motors and other appliances. This simply means that he is deterred by capital outlay, the more so as his appliances may well prove useless should he move, even in some instances merely to another part of the same town. What are wanted, in our opinion, are ready facilities for renting small motors and appliances and the installation of power mains without charge under the small conditions of consumption which must apply to an ordinary household. We imagine that with a little education and some demonstration as to use and cost, the field for this wider employment of electricity would prove fruitful enough to enable the apparatus to be supplied and maintained on very favourable terms, and quite possibly to admit of a reduction in power rates. We admit that the housewife is generally averse to things mechanical, but are convinced that the manual labour which could be shown as capable of being saved would be so considerable that such prejudices would soon be overcome. This is not the place to enter into details, but there are few processes in cleaning, polishing, drying and the like which the flexibility of the small motor could not well tackle, and nearly all the laborious translatory motions required by human beings for these processes could with economy be made rotary.

Once electricity became appreciated by the masses on a large scale as a necessity in connection with the daily round the demand would increase so largely that supply companies would find the reorganisation of their establishments a much more hopeful matter than it appears at present. In all these problems of development the question arises whether supply or demand is to come first, and in this case we certainly think that supply properly marketed and made known should initiate the new era. Finally, once again we would urge that all parties should have regard to the national and not the personal and local interest.

# NOTES.

**The Bank of England.**

A correspondent suggests in a letter which we give on p. 191, that the rebuilding of the Bank of England is an occasion when some form of open or limited competition should be decided upon before any decision is come to. The competition system as carried out in this country is not always so successful that one can be enthusiastic about it, and it leaves much to be desired; but there are undoubtedly occasions when it appears to afford the best chance of obtaining a result which is in the public as well as in private interests, and the rebuilding of the Bank is no doubt one of them, though it must be admitted that the well-known architects who have been consulted by the Governors of the Bank are not likely to neglect either of these interests.

**Proposed Commemoration of Christopher Wren.**

Arrangements are being made by the Royal Institute of British Architects to commemorate next year the bicentenary of the death of Sir Christopher Wren, who died on February 25, 1723. The Institute proposes to hold a commemoration week beginning on February 26 next, and has formed a committee on which representatives of Government departments, the artistic, scientific, and archæological societies, and universities have been invited to serve. Among those who have accepted are Sir Aston Webb, P.R.A.; Sir Lionel Earle (Permanent Secretary of the Office of Works); Dr. H. H. Turner (Savilian Professor of Astronomy at Oxford); Mr. Frederick Cavendish Bentinck (British Museum); Mr. Andrew T. Taylor (London County Council); Sir Hercules Read (President, Society of Antiquaries); Sir Banister Fletcher; Mr. Mervyn Macartney; Mr. J. Murrey, Secretary of the London District Council of Building Trades Operatives; and Mr. Josiah Gunton, of the City Corporation. The Dean and Chapter of St. Paul's and the Universities of Oxford, Cambridge and London will probably also be represented. It is proposed to organise a procession from the Mansion House to St. Paul's, to be followed by a Memorial Service at the Cathedral and a visit to the Crypt, where the President of the Royal Institute will lay a wreath on the tomb of Wren. This will be followed by a meeting at the R.I.B.A. in the evening, when papers on the life and work of Wren will be read. It is also hoped to hold an exhibition of Wren drawings, manuscripts, and other relics in the R.I.B.A. Galleries at 9, Conduit-street, lasting several days.

**The Height of Buildings.**

It is difficult to agree with one suggestion made in the very able address delivered at the Bournemouth Congress of the Royal Sanitary Institute, and reported in our last issue. It was contended that the result of the recent R.I.B.A. elections was to some extent an indication that the policy of the late Council in condemning an increased height was not popular in the profession. Surely the election was fought solely on the question of unification and registration? The height of buildings was never mentioned in connection with it. We ought to remember that the opponents of the unification and registration policy of the late Council, at the R.I.B.A. meeting at which the matter was discussed, obtained over sixty per cent. of the votes cast, showing that the Council's policy was unpopular with a certain section. But when we turn to the corresponding meeting, when higher buildings were discussed, we find the advocates of increased height polling about ten per cent. of the votes. Do not these figures prove emphatically that an unlimited increase in the height of buildings is not popular among architects, and that an election on this issue would be disastrous to anyone who stood for an increase in height?

**Preservation of St. Paul's.**

The question of the closing of St. Paul's in order to expedite the repairs and to prevent the risk of further settlements is one only to be determined by the architects and the experts who have all the facts before them. It is, no doubt, difficult even then to ascertain the precise amount of the present danger, and whether it is one sufficiently urgent to justify the closing of the Cathedral. The Cathedral was closed towards the end of the eighteenth

Architectural Association School Students' Work.

Design by Miss A. Sleigh (Third-Year Student.) (*See p.* 196.)

Architectural Association School Students' Work.

**Design for Reconstruction of Disused Brick-kilns to form a Garden Feature** (12-hour Sketch).
By Mr. C. F. Boniface (Third-Year Student). (*See p.* 196.)

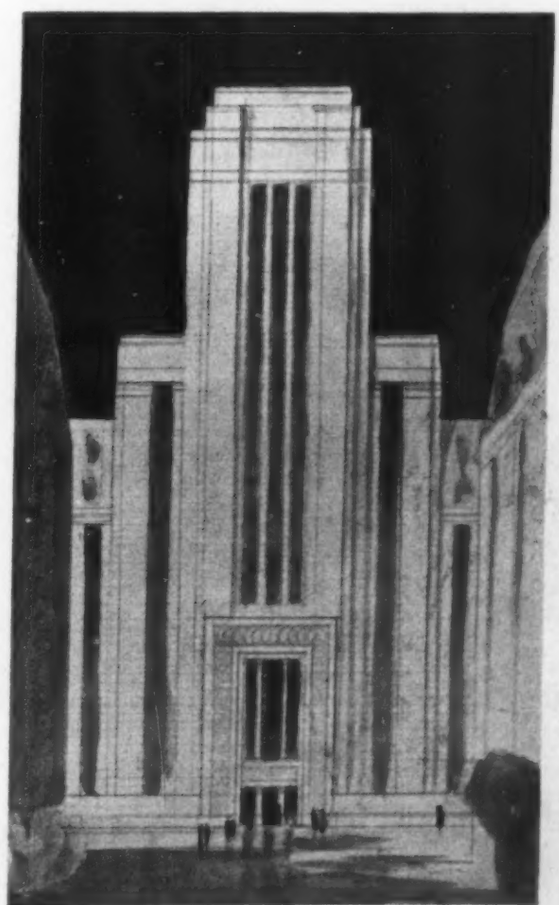
century for a considerable period, but circumstances were in many ways different. It is hoped that the restoration of the whole of the south transept will be completed by the end of August, when the next stages of the work will be begun.

**Site for London University.** Before any final decision is made, it is much to be hoped that full recognition will be given to the importance of a right choice in the site to be determined on for the new London University. The proposal supported by Mr. Fisher is open to serious objection. Architectural considerations already given weigh very strongly against the Bloomsbury site. There may be practical reasons for recommending that position, but there is a great deal to be said in favour of a site on the river embankment, which offers a great opportunity for continuing the work already achieved in the building of the new County Hall. Such a site should not be lightly discarded, for a university building in such a situation would hold a prominence suited to its national importance, and would offer a great contribution to the amenities of London and the Holland Park site cannot be lightly discounted.

**Cost of Unemployment.** When we read that £88,700,000 has been received in benefit of unemployment since the Armistice, enormous as is this sum we are nowhere near the end of the more indirect cost to the nation. One item alone, the value of the labour withdrawn, cannot be much less than this great sum over again. This labour, had it been exercised on works of public utility, would have been of very great value. We are still asking, in the presence of such continued unemployment, what can be done to utilise it in some practical way. The Ministry of Labour has issued a circular dealing with the matter, but suggests that the Government assistance which can be given towards loan works must be strictly limited, in view of the paramount need of reducing the financial burdens of the country. But is there not in such a view some confusion of thought apparent? To pay wages in order to do nothing is surely greater loss than to pay them for productive work.

**A Classical Example.** We may learn something from the ancients here, for was it not Pericles who, after the Persian Wars, when the soldiers returned, rather than have them wandering about the streets, and realising the demoralisation of citizenship lying in such conditions, gave employment to them on the building of the Parthenon, which rose on this wise recognition of the greater security to the State of paying men to work rather than paying them to do nothing? There is danger to the State in a mass of unemployed; under such conditions a loss of self-respect and consequent demoralisation is fostered tending to bad citizenship, and therefore divisions. In such circumstances Government assistance given towards loan works appears a better way of reducing the financial burdens of the country than withholding it.

**Musicians' Architecture.** We have heard a good deal of the necessity for federating the arts, the Faculty of Arts having been established for that very purpose, but when we examine the excellent musical fare to be provided during this season's Promenade Concerts at the Queen's Hall we still find on the programme cover an architectural design of the most absurd description. Such a programme, including as it does much of the world's greatest music, surely deserves a worthy setting. The present design irritates anyone interested in architecture. It would be the simplest matter to obtain a new design, and we are convinced that from every point of view it would be worth while.



Architectural Association School Students' Work.

**Design for a Façade to an Office Building in a Modern Thoroughfare** (12-hour Sketch). By Mr. W. A. Devereaux (Fourth-Year Student). (*See p.* 196.)

# GENERAL NEWS.

### R.I.B.A. Examinations.

The name of Mr. J. K. Parker was omitted from the list of those passing the Special War Examination of the Royal Institute of British Architects, given in our last issue.

### Obituary.

Much sympathy will be extended to Mr. J. S. Gibson, of Messrs. Gibson & Gordon, architects, 5, Old Bond-street, W.1, in the bereavement he has sustained by the loss of his only son, Mr. David James Gibson, who was killed in a motor accident at Brooklands on Monday.

### New Railway Station for Swansea.

The Great Western Railway Company has approved plans which will provide Swansea with one of the best-equipped and most up-to-date railway stations in the country. The present High-street Station is being set back 30 feet and the platforms lengthened. The company is spending a quarter of a million on the scheme, which is to be put in hand immediately. A large number of properties adjacent to the line will be demolished.

### Exhibition of Architectural Drawings.

A number of R.I.B.A. prize drawings have recently been on exhibition at the R.W.E.A. School of Architecture, Royal West of England Academy, Bristol. Amongst the sets on exhibition was a design for a central group of buildings for a non-residential university, which was submitted for the Soane Medallion and £150; a set dealing with ornament and coloured decoration, which won the Owen Jones studentship, and a design for the Henry Saxon Snell prize of £50; also the designs submitted for the British School at Rome Scholarship.

### Wolverhampton Archæological Society.

The members of the Wolverhampton Archæological Society held their second excursion of the season recently, when they paid a visit to Pillaton Hall (by kind permission of Lord Hatherton) and Penkridge Church. Arriving at Pillaton Hall, Mr. J. P. Jones conducted the members over the old mansion and chapel, pointing out the many objects of interest. Subsequently he read a paper to the members on the history of the Hall. After tea, the party visited Penkridge Church, where the monuments to the Littleton family were inspected. A vote of thanks was passed to Lord Hatherton, who granted permission for the visit to Pillaton Hall, and to Mr. Jones.

### Beauty and Sound.

Writing to *The Times*, Mr. B. P. Mudie-Cooke, 3, Porchester-terrace, Hyde Park, W., says:—Only perfect proportions secure perfect acoustics. The country in which to study this is most certainly not America, but Italy, where for hundreds of generations acoustics have been, and are, an exact science. You may have a wagon roof and perfect proportions, or perfect proportions and no roof, or the shell shape open to the sky, such as the Greek Theatre near Florence, where even an Englishman's whisper from the rostrum can be heard distinctly in every seat in the theatre. The Italians and Greeks were, and are, the only masters of the art of combining beauty and sound. Then why not study or even copy the perfect?

### Old London Bridge.

The Bridge House Estates Committee of the City Corporation are considering what support, if any, they can give to the effort to save the original arch of London Bridge, which has been recently discovered in the demolition of certain old buildings there. A scheme to preserve the arch and make it accessible to the public has been prepared by the architect of the new building, and the owners have promised to contribute towards the cost if the balance can be raised from other sources. The Bridge House Estates Committee are invited to make a contribution in money, or to remit for a time a portion of the ground rent. About £10,000 is required to save the arch.

### The Surveyors' Institution.

The annual meeting of the South Wales and Mon. branch of the Surveyors' Institution was held at Carmarthen on Wednesday last week. After the members had been entertained to lunch by Col. Dudley Drummond, the annual meeting was held. The retiring chairman was heartily thanked, and Mr. D. T. Davis was unanimously elected chairman for the ensuing year. Mr. H. T. Wales was elected vice-chairman and the branch Committee was re-elected *en bloc*, and several new members added. Capt. J. H. Roberts, who has acted for some time as hon. secretary, tendered his resignation, and it was decided to leave the appointment of a successor in the hands of the chairman and hon. secretary, subject to approval by the executive committee. A hearty vote of thanks was accorded Capt. Roberts for his past services.

**Cambridge War Memorial.**
Messrs. George Hubbard & Son, Architects; Dr. Tait McKenzie, Sculptor.

# COMPETITION NEWS.

### Raffles College, Singapore.

The President of the Royal Institute of British Architects has appointed Mr. John Begg, F.R.I.B.A., as assessor in this competition.

### Labour-Saving Bungalow.

The *Daily Mail* is offering £500 in prizes for designs for a labour-saving bungalow. Sending-in day, September 14. Further particulars from the Secretary, Bungalow Competition, 130, Fleet-street, E.C.

### Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given): *Chicago Tribune* Building (Nov. 1, July 14); Antwerp Lay-out (Sept. 29, July 14); Colombo Town Hall (Nov. 1, July 14); Southend School (Aug. 31, June 16); Chelsea Hospital (Sept. 16, Aug. 4).

# CAMBRIDGE WAR MEMORIAL.

The unveiling of the county, town and university of Cambridge war memorial by the Duke of York took place recently. The monument consists of a figure of a soldier in bronze surmounting a Portland stone pedestal embellished with heraldic carving. The sculptor, Dr. Tait McKenzie, has expressed in his figure a memorial to all those who fought as well as those who made the great sacrifice. His statue represents the triumphant return of a Cambridge soldier, who is marching homewards with a wreath slung over his rifle. The stone pedestal, which was designed by Messrs. George Hubbard & Son, architects, of 45, New Bond-street, W.1, and carried out by the contractors (Messrs. Rattee & Kett) is 10 ft. high and is executed on formal and Classic lines. On the four sides are panels showing the arms of Cambridgeshire, the Isle of Ely, the Borough, and the University.

# CORRESPONDENCE.

## Architectural Education.

Sir,—I have been asked to contribute a letter on architectural education, and I do so with a strong sense of my own incompetence to deal with this most important subject. It seems to me, however, that there is a painful lack of co-ordination amongst the schools. Each is a law to itself, and in consequence there is no common standard by which the respective attainments of their students may be judged. There should be some common recognised standard of minimum knowledge, which should be attained before the students are exempted from passing the Institute's examinations.

It is true that, to a certain extent, this evil is met by the panel of architects appointed by the Institute who act as external examiners. Theoretically, this panel of architects should agree and insist upon some standard of minimum knowledge; but I doubt whether they have ever met with the object of standardising this minimum, and, in consequence, it becomes a matter of chance as to whether the candidates should be passed or ploughed.

The doctors originally had external examiners, but these were abolished and inspectors were appointed in their place. These inspectors are retired doctors of distinction, who give their lives to the work. They have the right to be present at all examinations, but their main work is to see that the equipment of the medical schools is sufficient and that the personnel of the teaching staff is suitable. They report to the Medical Council, and if the equipment or the personnel of the staff is reported to be unsuitable, in any particular school, then it becomes necessary that the defects be remedied, otherwise such school may no longer continue to be classed amongst the recognised schools. Seeing that the doctors gave up external examiners and appointed inspectors with far greater powers in their place, the Institute might, with advantage, follow their lead.

As at present arranged, one external examiner of the Institute attends at the school or college when the candidates are examined at the end of the third year, and the successful candidates are exempted from passing the Institute Intermediate Examination. Two examiners attend at the end of the fifth year when the successful candidates are exempted from passing the Final Examination.

Inspectors or external examiners, with greatly extended powers, should visit and assist at the examinations every year. They should have power to stop students continuing their studies if they are found to be quite unsuitable, so that the youths would not be encouraged to waste three precious years of their lives in continuing to study for a profession for which they are unsuited. Our profession is already overstocked with architects of doubtful attainments, and it seems to me that some controlling influence should be exercised by the Board of Architectural Education not only on the question of education but also on the number of candidates admitted through the recognised schools into the ranks of the profession. Another evil is that these external examiners are paid by the schools. The examiners act for the Institute and they should be paid by their employers, otherwise they may lapse into becoming servants of the schools. The present arrangement is wrong in principle and undesirable in practice.

George Hubbard.

London, W.1.

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Sir,—Mr. Collcutt's letter in your last issue has interested me much and raised questions of the utmost importance to our profession, and we should feel grateful to him, as I most assuredly do.

One point he makes, with regard to the development of the architectural student in the direction of the surveyor rather than the architect, is to me no reflection on the system of training, but a defence of it, as it opens the door of escape to those architectural students who have felt their qualities to be rather more of the surveyor's than the artist's. For that reason I wish to see the training of architects run on practical lines. Teach them to know the possibilities and limitations of their materials; teach them, as far as possible, the requirements and conditions of their own time, and if they are artists they will do good work. But for mercy's sake don't try to teach them art, either with a big or a little "a."

What I understand by art is "the manifestation of human thought and feeling," and that is a matter dependent mainly on human character. The basis of all good art is moral perception, and our mothers are the first and most natural teachers. Our sense of dignity and grace, reticence and reverence, is surely architecturally expressible and the outcome of personal character. Schools may be able to encourage these qualities, but I doubt if they can ever inculcate them.

C. F. A. Voysey.

S.W.1.

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Sir,—In the last issue of *The Builder* Mr. Collcutt makes the remarkable statements (referring to women architects), "the building public don't want them," and "woman won't have woman as architect." Can Mr. Collcutt state the number of women architects practising in England? Seeing that woman has only just commenced to compete seriously with men, so far as architecture is concerned, very few of them as yet can be expected to hold "responsible and lucrative positions." But if the success of Miss E. G. Cooke in the A.A. Graduate Courses is an index to what may be looked for in the future it will not be lack of ability that will bar the road to women.

But my object in writing this is not to contradict Mr. Collcutt, but to enlarge upon his statement that the building public don't want women by suggesting that men at the present time are equally uncalled for in the numbers that are being turned out by the schools. Whatever defects the articled pupil system may disclose, it has the merit of keeping the enrolment of fresh recruits within reasonable bounds and more or less proportions the supply to the demand.

The fundamental difference between the architectural school and the architect's office is that the latter turns out a trained architect and the former an educated architect. The trained architect may be badly trained, or he may be the reverse; but in nearly every case he has acquired a commercial value proportionate to his application, ability and powers of design. He has also the valuable asset of a practising architect—his late master—to assist him in making a start in life. This cannot be said of the school-trained student. It is true that forty years ago office tuition may justly have been described as "haphazard," yet how many eminent architects have in practice justified the course followed? To-day, with the added opportunities provided by schools of art, technical schools and museums in town and country—not to mention the invaluable technical magazines and text-books—there is no reason whatever why an office-trained architect should not have an education equal to what any architectural school can instil, with the practical qualifications that only daily contact with office routine can teach.

To me it seems the ideal training is that of an office supplemented by courses of lectures which can present to a student in an interesting form much that is available in books which the average student would with difficulty assimilate.

The number of students admitted to architectural schools should be strictly limited—not by the cubic capacity of the school, but by the probability of each student on completion of his course being found a position as an architect's assistant, unless, of course, "private means" makes this a matter of indifference.

The present system of turning them out by the gross—architectural orphans!—is likely to

lead to a tremendous amount of unemployment and must bring into disrepute what should be a highly specialised and limited profession. It is not so very many years ago that by some it was argued that it was preposterous to hold examinations for architects—that the ability to design was as impossible to test except by practice as the ability to produce any work of art, whether of sculpture or painting. The pendulum has now swung in the other direction. Education and test examinations are everything, and the possibility of originality finding expression, except by accepted schools of culture, is denied.

G. L. W. B.

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## The Bank of England.

Sir,—I hope there will be opportunity offered to architects who have not yet been officially consulted to make designs for the rebuilding of the Bank of England, and as the present plans and proposals are put forward only as suggestions, I trust that in justice to the claims of the profession as a whole some form of open or limited competition will be decided on before any decisions are come to. In this way, a strong assurance will be given to the public that the utmost is being done on a very important occasion to secure the finest design. No inference unfavourable to the architects already consulted is involved in an appreciation of the fact, so well known to architects, that it is sometimes outside the ranks of a few well-known men that the finest results are reached, and it requires that those directing the present proposals should give full recognition to this fact.

"A Craftsman."

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## The Master Mason of St. Paul's.

Sir,—I have before me a copy of *The Builder* for September 12, 1885, page 355, which gives the details of the monument to Edward Stray, the Master Mason who built St. Paul's Cathedral. In *The Times* of Friday last, I see it is proposed to celebrate the bicentenary of Sir Christopher Wren.

Should not some mention be made of this man also?

Herbert W. Horner.

Aldgate.

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## "A Freedom of Sorts."

Sir,—I did not know that Mr. Maxwell Aylwin was so young a man, but his letter in reply to mine is evidence of it. Far more important things occupy me than to desire to "score off" Mr. Aylwin or indulge in the "debating tricks" of which he accuses me. He made a series of statements, in an otherwise interesting article, that appeared to me very harmful if left uncontradicted, so I contradicted them. That a "vast army of workers struggling for a bare living"—the fact of which I never

doubted—and directed by the highly specialised educated class represented by Mr. Aylwin is adequate to the needs of architecture I wholly deny, and when the human claims—which perhaps naturally sit lighter on youth—take their right place in Mr. Aylwin's mind, I venture to believe he will think so too. I will say no more lest I should be accused of further "debating tricks!"

"ISIS."

### Proposed Whitley Council for the Building Profession.

SIR,—The questions raised by your correspondent, "Lic.R.I.B.A.," on this subject in last week's issue are worthy of serious consideration. For over two years the A.S.A.P.U. has consistently urged the inauguration of such a body representative of the architectural, surveying and civil engineering professions in private, public and commercial activities.

The following are some of the questions which await the consideration of a Whitley Council:

1. The scope of private professional practice is becoming more and more restricted owing to the encroachment by the professional departments of the public and local government services, industrial and statutory companies, and the consequent increase of the members of professional men who become salaried assistants instead of independent practitioners. The professional institutes, etc., are less able effectively to prevent the interests of their members engaged in those spheres outside private practice. So similar are the difficulties experienced by these professional staffs that common action alone could efficiently protect the welfare of these assistants.

2. The question of overcrowding, due to many preventible causes.

3. Registration of all the professions concerned.

4. Unemployment and the question of the professions supporting their unemployed members. The principle of a minimum salary for all salaried assistants, which would effectively prevent the underpayment of qualified men in public, industrial—yes, and private practice. To prevent such occurrences as 189 men making application for a temporary appointment of a year at a salary of £4 4s. per week.

These and many other important issues could be raised and common action spring from such a council advocated by your correspondent and supported by the A.S.A.P.U.

J. MITCHELL, *Secretary.*
Architects' and Surveyors' Assistants' Professional Union.
33, Tothill-street, S.W.1.

Architectural Association School Students' Work.

**Design for an Alpine Monastery and Rest House.**
By the HON. H. PAKINGTON (Third-Year Student).

SIR,—Referring to the letter of "Lic.R.I.B.A." is last week's issue, there are evidences of the awakening of the consciences of those responsible for the position of the assistant to-day. There are movements afoot for the popularization of architecture. The latest is the Architectural Club, with T. Hardy and G. K. Chesterton as lay members. The A.S.A.P.U. is making itself felt and is becoming a power in the architectural world. It consists, as one of its members claims, of the cream of the profession. And the many winners of competitions and prize studentships in its ranks are good evidence of the truth of his claim. There is in its membership also a leaven of men of ripe judgment, full of the wisdom which comes with years—and these are, if possible, more enthusiastic than their younger confrères.

It only remains for the A.S.A.P.U. to increase its membership (the cream alone is not sufficient) and throw off the shackles of the elderly bodies that have attempted for so many years to represent the employing members of the profession to the exclusion of all others, even of their own membership. And then "Lic. R.I.B.A." may look forward to the assistant coming into his own. Energetic and virile minds, and clear brains are at work, and their work will bear fruit if they have the continued and increasing support of those most interested.

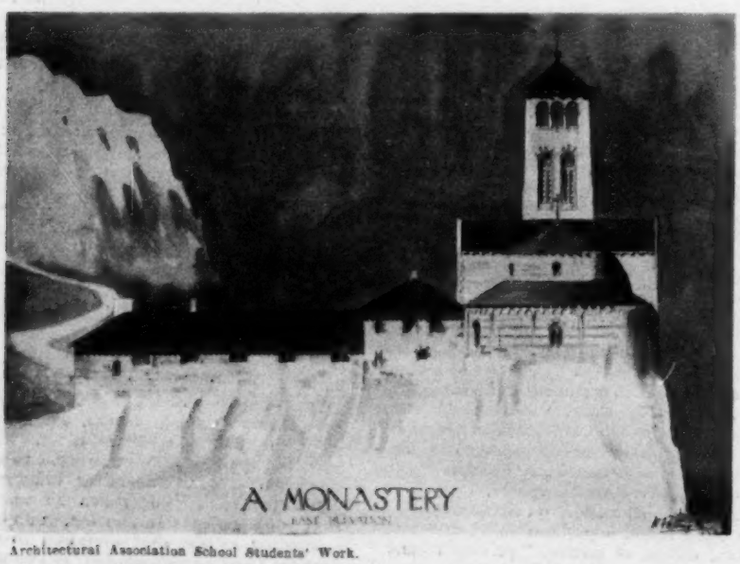
"A.S.A.P.U."

Chiswick.

SIR,—The suggestion in your last issue for the formation of a Whitley Council for the architectural profession is worthy of serious consideration. A council of this kind might deal in a practical way with the unemployment question, and many other subjects which can only be handled by a representative body. A Whitley Council is still functioning in respect to Civil Service questions, and in some industries which do not employ the "strike" weapon.

"LEVEL."

London.




Architectural Association School Students' Work.

**Design for an Alpine Monastery and Rest House.**
By the HON. H. PAKINGTON (Third-Year Student).

### Decay in Walls.

A correspondent writes as follows with reference to trouble experienced with walls:—"The hall is 60 years old, built on heavy clay soil, but with plenty of fall around. Five years ago the plaster just above the skirting-boards began to perish and fall away. A bulge would appear showing that the plaster had left the bricks, then a white fluff (or mould) would show itself, and with a slight touch the plaster would all crumble away. Two years ago the walls where the trouble appeared (they are all inside walls) had all the plaster removed to about 4 ft. up the wall and concrete placed there. After six months the trouble began to show itself *above* the concrete where the latter joins the old plaster. It appears to be spreading all over the lower rooms in the house. The cellars are dry and there is a damp-course. Is this trouble caused by a definite known growth, or an insect? How (if at all) is it best cured? Will it necessitate removing the bricks? Is there any chance of making a permanent cure?"

[Perhaps some of our readers who have experienced similar trouble may be able to help our correspondent.]

### Engineering Joint Council.

It is announced that proposals for closer co-operation amongst the leading engineering institutions, which have recently been under consideration, have now received the approval of the institutions whose representatives met in conference, and that an Engineering Joint Council composed of representatives of these bodies has been formed.

# SYMBOLIC ORNAMENT.

BY HENRY HYAMS, F.R.I.B.A.

The present-day use of meaningless ornament has reached such a pitch that very few people ever seem to have heard that all ornament was at first functional—that its existence was either the result of the method of construction or else had a definite meaning. This was so, not only in religious art but also in heraldic art. Our modern method of, as it were, sticking ornament on afterwards "to please the eye," and so on, was unknown in the past. In ancient days ornament appealed to the mind's eye; to-day it appeals to the physical eye.

Yet there is no reason why our ornament to-day should not reflect our life and have some meaning, if only slightly functional and slightly symbolic. The more we get to know about the origin of architectural forms the more clearly it becomes evident that ornament was not added merely "to please the eye." There is now a theory* that the forms of even the capitals and bases of the Greek orders originated in the methods of using bituminous dampcourses in reed or timber columns of early times. That the elaborate detail in an Ionic capital originated in the method of using a bituminous semi-fluid retained in a woollen membrane as a dampcourse is a startling theory. But even if we accept it as true—and I do not see how we can refuse to do so with the evidence now given—why should we continue to repeat this ornament, which to us means absolutely nothing? In its stone form it probably had a meaning for the Greeks. At any rate, Greek architecture, by its incessant repetition of the same ornamental details, does shout to us that it was built by slaves, and not by free craftsmen. It is slave architecture, pure and simple, and totally unfit for us, our climate, and our democratic age. Future historians will point out that although our buildings should have said something quite different from what the Greek buildings said, yet did we, parrot-like, repeat all the old Ionic details.

Far better would it be if we made our columns simply of blocks of stone of uniform size without capital or base than to make a senseless copy of something said by men thousands of years ago. If our architecture said nothing, then silence is more dignified than apish mimicry. Whenever future historians of art look at our twentieth-century Ionic capitals with their egg-and-tongue mouldings, and so on, the thought will come to them: "Twentieth-century craftsmen turned into mechanical tools by slavishly copying the Greek slave architecture!"

Modern Gothic art generally is no better; it is just as dead as the copies of Greek art, although it would be the easiest thing in the world to give it a little life by a little originality, instead of the same old Tudor rose, the Tudor foliage, and the same old cresting yard after yard. Gothic art, unlike Greek, is so well adapted for freedom and originality in detail. If our craftsmen were indeed creative artists the moment they were allowed to do anything in freedom their creative powers would produce real decorative ornament. Yet we find just the reverse. Our system of training them to copy old masterpieces has killed any creative power they might have possessed.

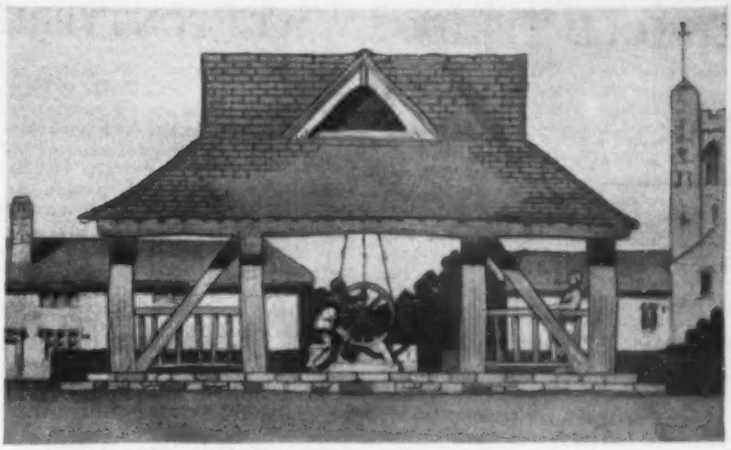
The more one thinks about the present state of things the more hopeless it all seems, and the more one is inclined to try to get back to fundamental principles. Is it necessary for functional purposes that every column should have its capital and its base? If we decide that it is, then what form should they take? Does not the soul of a free craftsman demand that each capital should be the work of a creative artist—unique; not a replica of the one next to it? If we are forced to the conclusion that capitals and bases no longer have any function in architecture, we shall no doubt find that other decorative functional features are evolved in our buildings. Ornament will exist so long as we build.

There does not seem any reason why symbolic ornament should not grow out of all kinds of buildings, and particularly out of those in which there is a certain amount of communal life. In a city hall, for example, the ornament could be based upon the city arms. If for London, the cross of St. George, and the sword (or swords) of St. Paul, the patron saint of the City, with all their legends could be worked into decorative features. Smaller supports of stone or wood could be carved with conventional dragon-and-knight ornament, or anything bearing on the history of the town, ancient or modern. Ornamental paterae and decorated mouldings should have something to say, if only the initials of the names of the leading officials of the town. Anything would be better than the present state of things.

There are elements in ornament that have a symbolic meaning which seems more or less to be permanent. Thus the anchor will for many years to come carry its Christian meaning of hope, and its heraldic meaning of succour in extremity will always stand. The moon for the power of night, the pen for the art of writing, the spur for press forward, are in a class of symbols that is easily understood, and therefore will long be used. The hand, the sword, and the horn of plenty are similar. There is a large class in which the symbols have several different meanings; generally one given by ecclesiastics and another by the heralds. Thus the lion, the eagle, and the ear of wheat; each has meaning according to whether it is used in ecclesiastical or heraldic art. There is great scope in the decorative wreath. Besides the triumphal wreath of laurel leaves and berries, and the civic wreath of oak leaves and acorns, there are the ancient Roman wreath of olive leaves (the reward of the Olympic games), the wreath of parsley (the reward of the Nemean), of pine twigs for the Isthmic, and then the wreath of "grass from the field of battle" for the soldier. There are the chaplets Valleris, Muralis, Navalis, and the Floral. It is not suggested that there should be an attempt to revive all these, but, seeing how the wreath was elaborated in the past, could it not be treated more elaborately, more decoratively, with more meaning to-day? Another class of symbols is one in which the meaning is obvious through the symbol's historical association; in this class are those such as the sphinx. Others, such as the skull, have a world-wide significance. Classical symbols, such as the lamp of wisdom, the trident of Neptune, and the masks of tragedy and of comedy seem to be permanent.

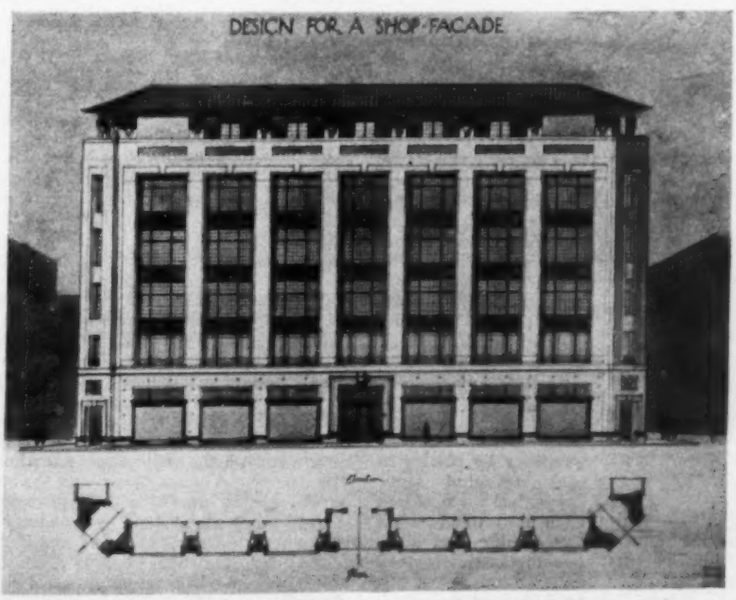
If only our modern craftsmen and designers would get a new spirit into their work so that the ornament they created would be full of meaning, then there would be hope for architecture and the sister arts.

* "Capitals and Bases: A Theory of their Evolution." *R.I.B.A. Journal.*



Architectural Association School Students' Work.

**Design for a Covered Village Well** (12-hour Sketch).
By Mr. G. E Hubbard (Third-Year Student). (*See p.* 196.)




Architectural Association School Students' Work.

Design by Mr. R. E. Enthoven (Third-Year Student). (*See p.* 196.)

# THE "OLD BRIDGE" AT PONTYPRIDD.

BY FRED W. REES, M.S.A.

THE architect and builder of the wonderful "Old Bridge" at Pontypridd was a self-made and self-taught genius—William Edwards by name. He was born in a farmhouse on the mountain-side in the parish of Eglwysilian. That there is much to say about a man who merely built a bridge in the years that have gone by may surprise many, but a really fascinating life-story exists concerning a farmer's son who became a prominent architect. That boy was William Edwards, who struggled assiduously through his young life dominated by one specific aim—to build a bridge across the River Taff. This, we all know, he accomplished. He had every reason to relinquish his task in despair, but he felt he also had every reason to persevere until he attained success. On two occasions his efforts were tragically unsuccessful, but success always lived in the heart and brain of the man, and to-day we know, as his contemporaries knew before us, that his determination and diligence were finally rewarded. In 1721, when he was not yet three years of age, his father was drowned while attempting to cross the River Taff at the Eglwysilian ford. This tragic fact engendered in his youngest son a life-purpose to build a bridge across the waters which had made him a fatherless child.

Young Edwards was put to work upon his mother's fields before he was six years old, but he was never intended for a farmer. At the age of sixteen he was known to be the best builder of dry walls within a wide area, and his services were in frequent request. By the time he had reached the age of twenty he had built houses —which were models for those times—flour-mills and smelting works all over South Wales.

The roads were defective and bridges were needed to span rivers which cut off communication between town and town, county and county, and shut up the vast mineral wealth of South Wales. As a result, the heads of the county met in conclave at Cardiff and decided to erect a stone bridge over the treacherous Taff. On September 16, 1746, William Edwards was instructed to prepare a scheme for the bridge, and his design was considered and approved in a very short space of time. He had commenced, but at first he had to battle with the deceitful river. But he was undaunted; the weeks and seasons went by until at the end of two years there stood a fine three-arched bridge across the river, which displayed considerable elegance of design. For a self-taught man it was a triumph. Its cost was £500. Some two years later the River Taff began to rise, and raced through the three arches with the swiftness of a torrent. The rain did not cease. The resistless river hammered away against the parapet and beat it in. Then, with a tumultuous roar as of triumph and a deafening crash that startled sleepers in their beds more than a mile distant, the bridge that was built for centuries was swept away into irreparable ruin.

"PONTYPRIDD" 1914

Edwards was compelled by his contract not only to build but to maintain the bridge for a period of seven years, so he had to resume his labours unpaid. In order to guard against the danger which led to the destruction of his first bridge he conceived the bold and massive design of spanning the river with one arch only. He met with some difficulty in gaining the approbation of his sureties, who conceived the scheme to be romantic. The situation and dimensions of this second bridge were the same as those of the present bridge. He had proceeded so far with the undertaking that the parapets only were required to complete it when another accident occurred which again proved fatal to the structure. From the great rise in the arch it was found necessary to raise the roadway at each end in order to facilitate access. The quantity of material in the centre of the arch was so small in proportion to that laid over the spandrels that the pressure upon the haunches forced up the crown, the keystone shot up into the air like a cannon ball, and the whole was again reduced to ruin.

This second failure would have led most men to abandon the task, but it was not so with Edwards. Possessing a persevering and ardent disposition, he determined on another effort to overcome the difficulty, and this time he succeeded in erecting the present structure—to a Welshman is given three attempts. It is stated, however, that he consulted Smeaton on the subject, but there is no direct evidence of his having done so, while there is no reason for supposing that it was not the outcome of his own intelligence or powers of invention. What assistance that eminent engineer gave is not known, but Edwards, either following his advice or profiting by his last misfortune, took the precaution to relieve the arch of the great pressure at the haunches by placing in each spandrel three cylindrical openings from face to face of the bridge and diminishing in size as they ascend the arch. It is said that the spaces between them were filled up with charcoal, by which means the object was completely accomplished.

PONT-Y-TY-PRIDD. 1755.

The use of voids to relieve the pressure on the haunches was not a new principle, for examples are to be found amongst some of the earliest Roman bridges, but nevertheless none of these examples is the same as that adopted by Edwards. The Ponte Sisto over the River Tiber, which was built about 260 A.D., has one cylindrical void between the two central openings. It is about 10 ft. in diameter, and in this case it does not appear that the void can have any influence on the stability of the bridge, but must have been introduced for the purpose of an artistic effect. Another Roman example is the Ponte Molle, built a mile-and-a-half from Rome by the Censor Ælius Scaurus about 109 B.C., which also has hollow spandrels, but they are not circular voids. Of course, I do not suggest that Edwards would have known of these Roman examples, but it tends to confirm the statement that he received advice from Smeaton, who would undoubtedly have known of the Roman custom. And so in 1755, when William Edwards was 36, he had completed his trinity of bridges over the terrible Taff, and there the last stands to this day, fair to see, with the date of its erection upon it.

The name "Pont-y-ty-prydd" means the "Bridge of the Earthen House," and refers to an old mud hut which stood near the bridge at the time of its completion. The arch measures 140 ft. between the abutments, and it has a versed sine of 35 ft. It is a segment of a circle whose diameter is 175 ft. The width of the soffit is 15 ft. 10 in. at the springing, tapering to 14 ft. 5 in. at the crown by means of six offsets on each face, varying from 2 in. to 3 in. in depth. The width of the roadway at the centre of the arch was 11 ft. The arch stones throughout each face are of parallel widths, 2 ft. 6 in. deep, and vary from 6 in. to 9 in. thick and 12 in. to 18 in. on soffit. The soffit is all rubble masonry, two or three courses making up the dimensions of each arch stone.

Two great floods came down the Taff valley in 1816 and 1829, when the water rose to a height of 12 ft. 6 in. above its ordinary level, but still the bridge stood, and it has done so for over 160 years. It is a monument to the perseverance and talents of the builder. The bridge is built of the hard and durable grey sandstone from the quarries in the neighbourhood, while the lime used was from the well-known Aberthaw cliffs. The narrowness of the bridge and the steepness of the ascent were found inconvenient and dangerous, so about 1826 the roadway was in consequence raised at each end and the surface paved; but even then it was as steep as 1 in 4, and it was found necessary to use a chain and drag.

This was Edward's first attempt at bridge building, and also his master effort. Up to 1831

it remained the largest arch in this country, but was placed second in that year by the construction of London Bridge, with a span of 152 ft., while in 1834 the Grosvenor Bridge was erected over the River Dee at Chester with a span of 200 ft., and is still the largest masonry arch in this country. There is also a prevalent idea that Pont-y-ty-prydd was at the time of its erection the largest arch in the world, but this was not the case. At the date of its completion it stood seventh in order as regards size amongst the masonry arches of the world, but it may, however, claim first place in boldness of design by reason of its slender arch ring, and this position it maintains to the present day. It is very closely followed by the Pont de Tournon over the River Doux in France, which was built in 1545 and has a span of 156 ft. 9 in. Its arch ring is 2 ft. 9½ in. thick, as against 2 ft. 6 in. at Pont-y-ty-prydd.

From that day William Edwards' fame as a builder of bridges and smelting works was assured. He erected several other bridges in South Wales, some of considerable magnitude although not at all equal to his great work, as follows :—

(1) One of the largest is Wychtree Bridge, over the River Tawy at Morriston, near Swansea. It has a span of 95 ft. and a versed sine of 20 ft.

(2) The bridge over the River Usk in the town of Usk Mons.

(3) Pont-ar-dawe over the River Tawy some 10 miles north of Swansea. One arch has a span of 80 ft. and was supposed to have one circular void over each haunch, but the existing bridge at Pontardawe has no voids. The bridge at Morriston answers this description.

(4) His handsome three-arch bridge over the Towy at Llandovery is pierced with hollow cylinders over the piers, adding beauty to strength, but in this (as in others) he reduced the height with more regard to the useful than the picturesque. It has one arch with a span of 85 ft.

(5) The one-arch bridge of 45 ft. span at Bettws in Carmarthenshire.

(6) The three-arch bridge over the Towy at Llandilo, also in Carmarthenshire.

(7) The one-arch bridge at Aberavon (Glamorganshire), which has a span of 75 ft. and a versed sine of 15 ft. This bridge has no voids, but a heavy arch ring.

(8) A fine five-arch bridge over the River Wye at Glasebury in Brecknockshire. It was built in 1783, but it collapsed in 1795 as a result of a severe frost.

The chief characteristics of Edwards' work are sound workmanship, good materials, and neatness of execution, and to these the Pontypridd arch owes its continued existence. The experience he had gained at Pontypridd led to many improvements in his practice at subsequent works and enabled him especially to avoid the great rise in the arch without impairing the stability of the structure.

Edwards was laid to rest under the shade of Eglwysilian Church at the ripe old age of 70, in 1789, and he left his well-trained son David to inherit his fame as a bridge builder.

In 1857 a second masonry bridge with three arches was constructed across the river alongside the historic work of Edwards, a bridge more in accord with modern requirements, but the beautiful "Old Bridge" is still standing, a picturesque monument to the memory of its persevering and pious builder and a reminder to this self-sufficient generation, so proud of its own grand doings, that but for William Edwards and his bridges and furnaces progress in South Wales might have slumbered a generation or more.

In 1910, owing to the remarkable growth of the town, another bridge was constructed about half a mile farther up the river. It is known as the Berw Bridge, and is built in Hennebique ferro-concrete. It includes a centre arch of 116 ft. span and two arches of 26 ft. span each, the total length of the bridge being 180 ft. between the abutments. The width of the bridge is 24 ft. between the parapets, and the main arch has a rise of 23 ft. It was designed in 1907 by the late P. R. A. Willoughby, M.Inst.C.E., then Surveyor to the Council and later Director of Public Works in Jamaica.

**War Memorial at Stow-on-the-Wold Parish Church.** MESSRS. HEALING & OVERBURY, Architects.

[The rood beam illustrated above has been erected as a memorial to the men of Stow who fell in the war. It has been the endeavour to give to the work a sturdy austere character in keeping with the architecture of the Cotswolds. The clear span is 23 ft., and the figures are nearly life-size; the beam, which is 14 ft. above the nave floor, is 18 in. deep, and the eastern elevation is treated similarly in all respects to the western side. The names of the forty-five men who fell, together with the inscription, have been cut in the masonry of the old southern wall of the nave, spaced out to fit the existing stones, and the inside of the letters is tinted a soft grey.

The architects are Messrs. Healing & Overbury, of Lloyds Bank Chambers, Cheltenham, and the memorial was executed by Messrs R. L. Boulton & Sons, of Cheltenham.]

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## ILLUSTRATIONS.

### The Auctioneers' and Estate Agents' Institute.

This Institute, which is now housed at 34, Russell-square, W.C., has for some time realised the necessity for acquiring more commodious premises in a more central situation. An important freehold site has, therefore, been acquired in Lincoln's Inn Fields, bounded by three thoroughfares and at present covered by Nos. 29 and 29A, Lincoln's Inn Fields and Nos. 2–6, Newman's-row. The design of the proposed new building has recently formed the subject of a limited competition, in which the President of the Royal Institute of British Architects nominated Sir Reginald Blomfield, R.A., as the assessor. Seven architects and firms of architects were invited to compete, namely, Messrs. Cackett & Burns Dick (Newcastle-upon-Tyne), Mr. S. N. Cooke (London and Birmingham), Mr. H. R. Gardner (Leatherhead), Messrs. Greenaway & Newberry (Westminster), Messrs. Oatley & Lawrence (Bristol), Messrs. Trehearne & Norman (London), and Mr. Septimus Warwick (London).

The award of the assessor has placed first the design submitted by Messrs. F. H. Greenaway and J. E. Newberry, the second premium being awarded to Mr. S. N. Cooke.

### Ipswich War Memorial.

Mr. H. V. Ashley, F.R.I.B.A., the assessor in this competition, has made the following award: First premium (£150), design No. 154, Mr. Edward Adams, A.R.I.B.A., 9, Herbert-street, Whitworth, Moss Side, Manchester; 2nd premium (£75), design No. 20, Mr. C. H. Roberts, 61, South Molton-street, W.1; 3rd premium (£50), design No. 1, Messrs. C. H. Prestwich & Sons, Bradshaw-chambers, Leigh, Lancs.; honorary mention, design No. 67, Mr. Raymond C. Arnold, A.R.I.B.A., of Ilford; and designs No. 105, 122, and 138—the names of the authors of the last three have not come to hand. The assessor in his report says: "I must congratulate the committee on the fine response to their invitation. The subject was an ideal one, and the site eminently suited to its purpose; it is only to be regretted that so many of the schemes, though good enough in themselves as designs, had to be ruled out as not being fitting memorials for the particular site or for exceeding the stipulated outlay. One hundred and eighty designs were received; six of these were disqualified—the authors disclosing their identity in five cases, and the 6th was received several days late." The designs are exhibited at the Ipswich Art Gallery from August 10 to August 16 inclusive.

### Architectural Association School Students' Work.

We illustrate in this issue some examples of work executed by third, fourth, and fifth-year students at the Architectural Association School, now on exhibition at 34–35, Bedford-square, W.C. The school subjects were all submitted to and approved by the Board of Examiners in the recent Final Examinations of the Royal Institute of British Architects. The following programmes relate to the designs illustrated:—

A Modern Office Building. (4th and 5th Years; 12-hour Sketch.)

This building is situated on an island site (such as the Aldwych site) at the end of an important thoroughfare (such as Kingsway). The thoroughfare is 100 ft. wide, with office buildings as follows:—Ground to first floor, 13 ft. 6 in.; first to second floor, 11 ft.; second to third floor, 11 ft.; third to fourth floor, 11 ft.; fourth to fifth floor, 11 ft.; fifth to sixth floor, 11 ft.; sixth to seventh floor, 11 ft.; and two stories in the roof. The window spacing generally is about 11 ft. The suggested building is not necessarily limited to these dimensions, which are only given as a guide; also, the width of the building would extend beyond the street width, but the portion covered by the buildings of the approach street need not be shown. It is pointed out that portions of a building under special conditions may be taken to a greater height than the general height fixed by the London Building Act. It is desired that this building should form a fitting climax to a fine street.

A Well Shelter. (3rd Year; 12-hour Sketch.)

Villages in certain parts of England get their supply of water from a well. Frequently, as in Hampshire, these wells are protected by a timber structure carrying a roof. Such a structure is the subject of this sketch. The well is situated on the village green. It is necessary to provide protection against falling in, means of winding up buckets, and room to circulate under the protecting roof. The shelter is to be constructed of timber, and any suitable roofing material may be used.

A Monastery. (3rd Year; 3-week Design Subject.)

At the foot of an Alpine pass, 8,000 ft. above sea level, it is proposed to erect a monastery. The monks will devote themselves to assisting travellers in winter and rescuing those who are lost in the snow. It is not intended that the buildings should be elaborate or follow any special style. They must, however, be in stone and suitable to the climatic conditions, and should be in harmony with their religious character. *Accommodation.*—Dormitory for 20 monks, divided into small rooms or cubicles 6 ft. by 8 ft.; Refectory (dining-room), day room, library, reception room, prior's room and bedroom, kitchen, bath and lavatory accommodation, sick room. *Travellers.*—Dormitory for men (10 cubicles), dormitory for women (10 cubicles), hall or living room, lavatory accommodation. The whole of the building is to be arranged around a cloister or courtyard, of which the chapel shall form one side. *The Chapel.*—Total length 100 to 150 ft., the choir occupying the major portion. A small tower or cote must be included in the design to contain the bells, and also a beacon light.

A Bungalow at the Seaside. (3rd Year; 3-week Design Subject.)

The bungalow is to have four bedrooms, a sitting-room, kitchen, and offices. It is intended for summer occupation only, and for that reason must be so built and arranged that it can be completely shut up with little risk of being broken into. In order that the maximum number of people may be accommodated, it is suggested that the bedrooms be fitted with bunks or similar arrangements. The house should be planned with a view to labour-saving, and as much furniture as possible designed as fitments. The site is level and faces the sea to the south, being 10 ft. back from high-water mark, and 6 ft. above; height and air are important points, and, if possible, sleeping balconies should be provided.

## EXHIBITION NOTES.

### THE FINE ART SOCIETY.

A particularly good collection of water-colours by British artists is now on view at the Fine Art Society. Amongst them a small drawing called "The Interval" (28A) by Fred Taylor, especially appeals to one from its vivid rendering of a rococo façade in grey and yellow seen behind a foreground of dark green shrubbery and fountain; it is a singularly pleasing passage of colour. The same artist's large drawing of Whitby Sands (28) is a clever rendering of low hills against a grey sea, in which the crowds of holiday makers are put in with some distinction. Cecil A. Hunt's two landscapes—the Great Heath, Dorset (23) and the Blue Backwater (24) are handled with force and breadth and fine colour. There are four fine drawings by Frank Brangwyn, R.A.: The Downs, Ditchling (14) and Cordova (13); "On the Tarn" (10) and the Sussex Downs (9). W. Walcot is at his best in the Palais de Justice, Brussels (11) and less pleasing in "The Forum, Rome" (12); his two smaller sketches are characteristic. The drawings by W. Russell Flint are fine examples of his accomplished methods. A delightful little drawing is the late Claude Shepperson's "Dartmoor" (50). In "France" (67) we have a powerful study of a horse by A. J. Munnings, A.R.A. Frank Brangwyn's "Albi" (80) conveys a wonderful impression of size. There are several other drawings of first-rate quality which make up an exhibition of a very attractive kind. Clever and capable as much of our modern work is, we have an underlying feeling of a lack of sincerity in much of it. And some sort of sincerity of feeling is, after all, necessary in work which is to give any real pleasure to others.

## MEETINGS.

Saturday, *August* 12.

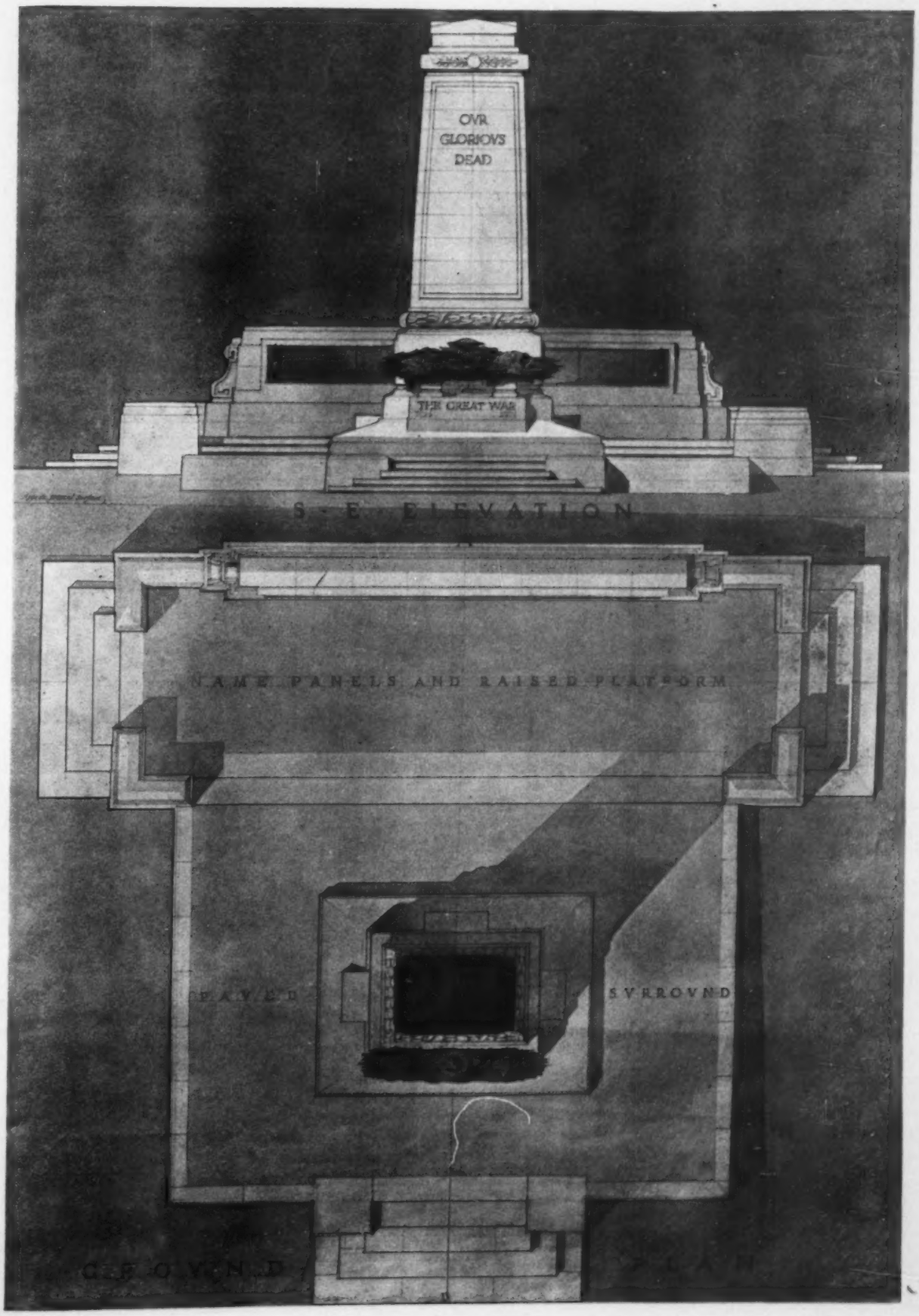
*Northern Architectural Association.*—Bywell. Sketching Meeting.

Wednesday, *August* 16.

*Northern Architectural Association.*— Evening Meeting. Pelaw Brickworks.

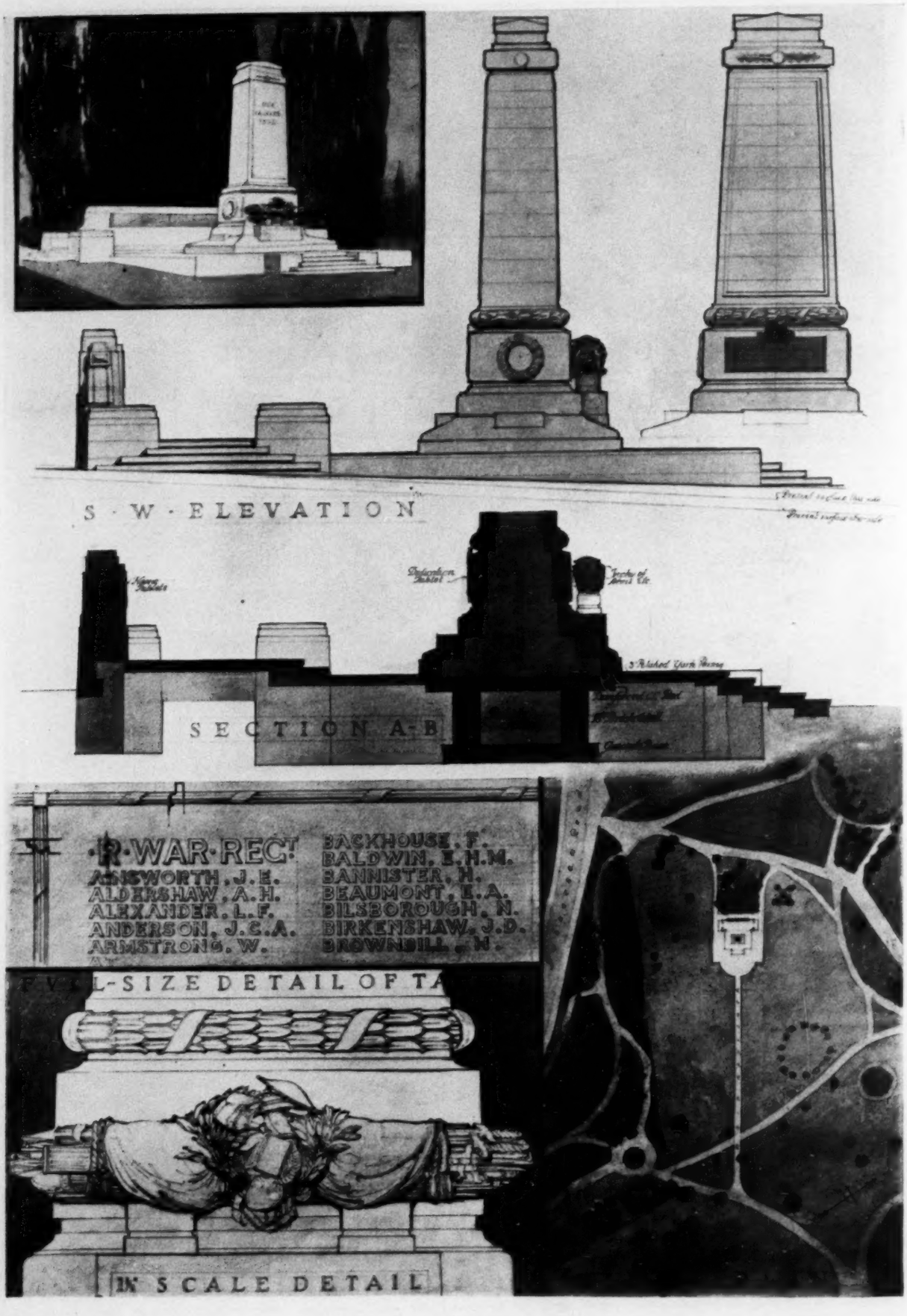
### Town Planning Institute.

The fourth annual country meeting will be held at Manchester, from October 12 to 15, 1922. The provisional programme is as follows:—Thursday, October 12: Reception by the Lord Mayor at the Town Hall at 7.30 p.m. (evening dress). Friday, October 13: Town Planning Exhibition will be on view at the Town Hall, and meetings will be held there. In the morning, Professor S. D. Adshead, M.A. (Past President), will read a paper entitled "Architecture, Town Ornaments and Amenities"; in the afternoon, Alderman Col. Turnbull, Chairman of the Manchester and District Joint Town Planning Advisory Committee, will give an account of the work of that Committee; and in the evening there will be a dinner at the Grand Hotel, and discussion regarding establishing branches of the Institute. Saturday, October 14: Morning—Visit to the Docks and Ship Canal, and trip on the Canal. Inspection of Trafford Park industrial area; afternoon—Inspection of arterial roads being constructed by the Manchester Corporation; evening—Dinner at the Town Hall, by kind invitation of the Lord Mayor. Sunday, October 15: If a sufficient number notify that they desire it, a motor char-a-banc trip to Buxton, returning in time to catch evening train to London, can be arranged.




**Ipswich War Memorial Competition.**

First Premiated Design, by Mr. Edward Adams, A.R.I.B.A.

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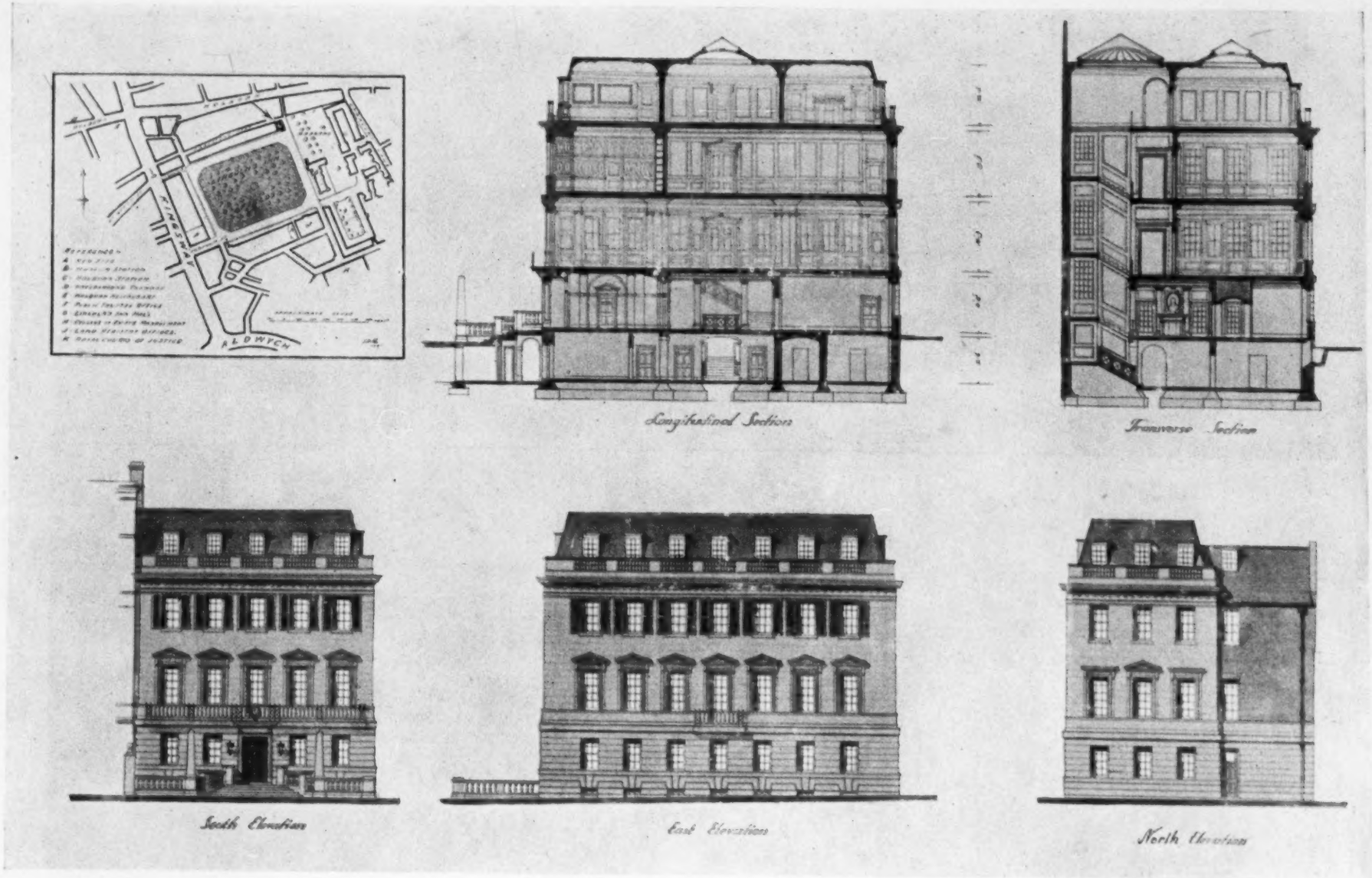
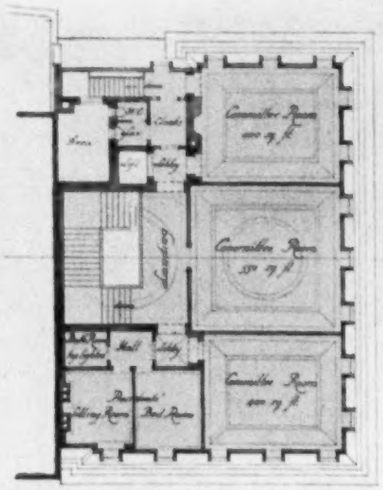


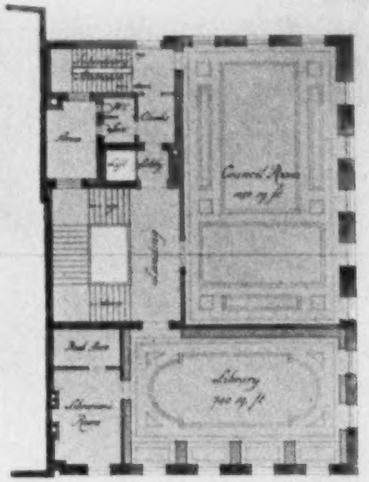

NEW PREMISES FOR THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

SELECTED DESIGN, BY MESSRS. F. H. GREENAWAY AND J. E. NEWBERRY, AA.R.I.B.A.

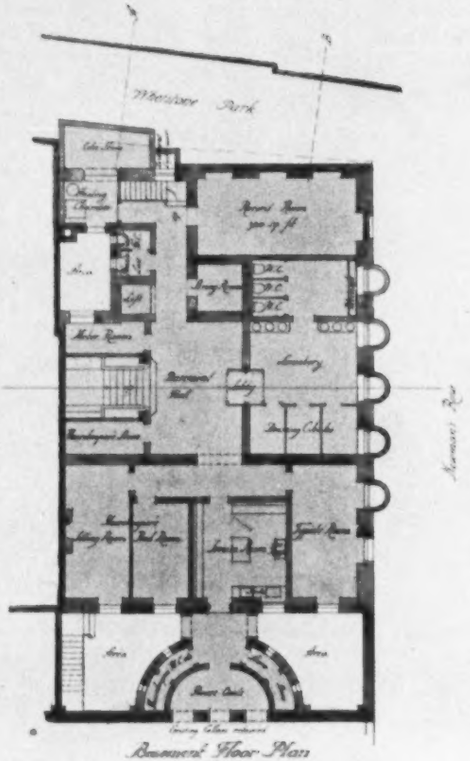
# THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE PROPOSED NEW PREMISES



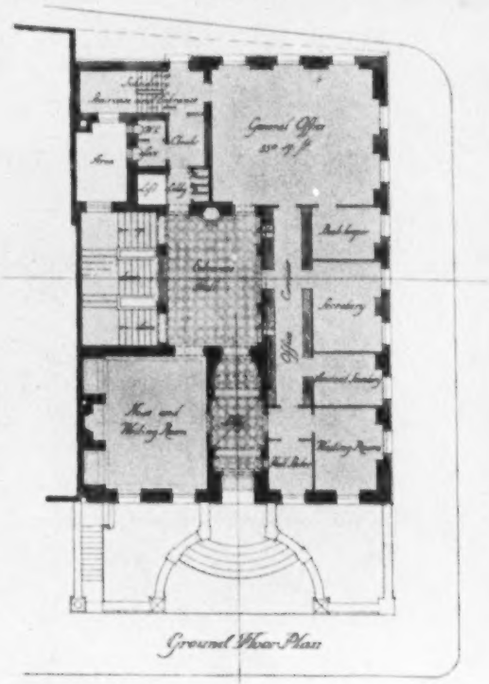

Third Floor Plan



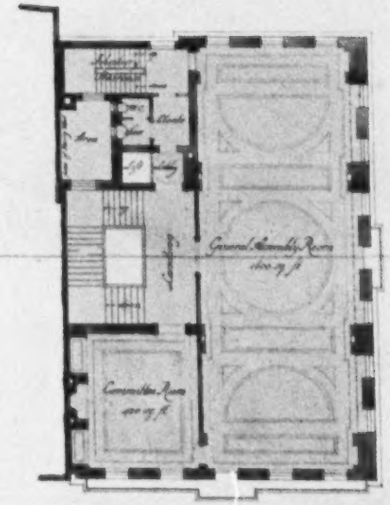

Second Floor Plan




Basement Floor Plan




Ground Floor Plan




First Floor Plan

NEW PREMISES FOR THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

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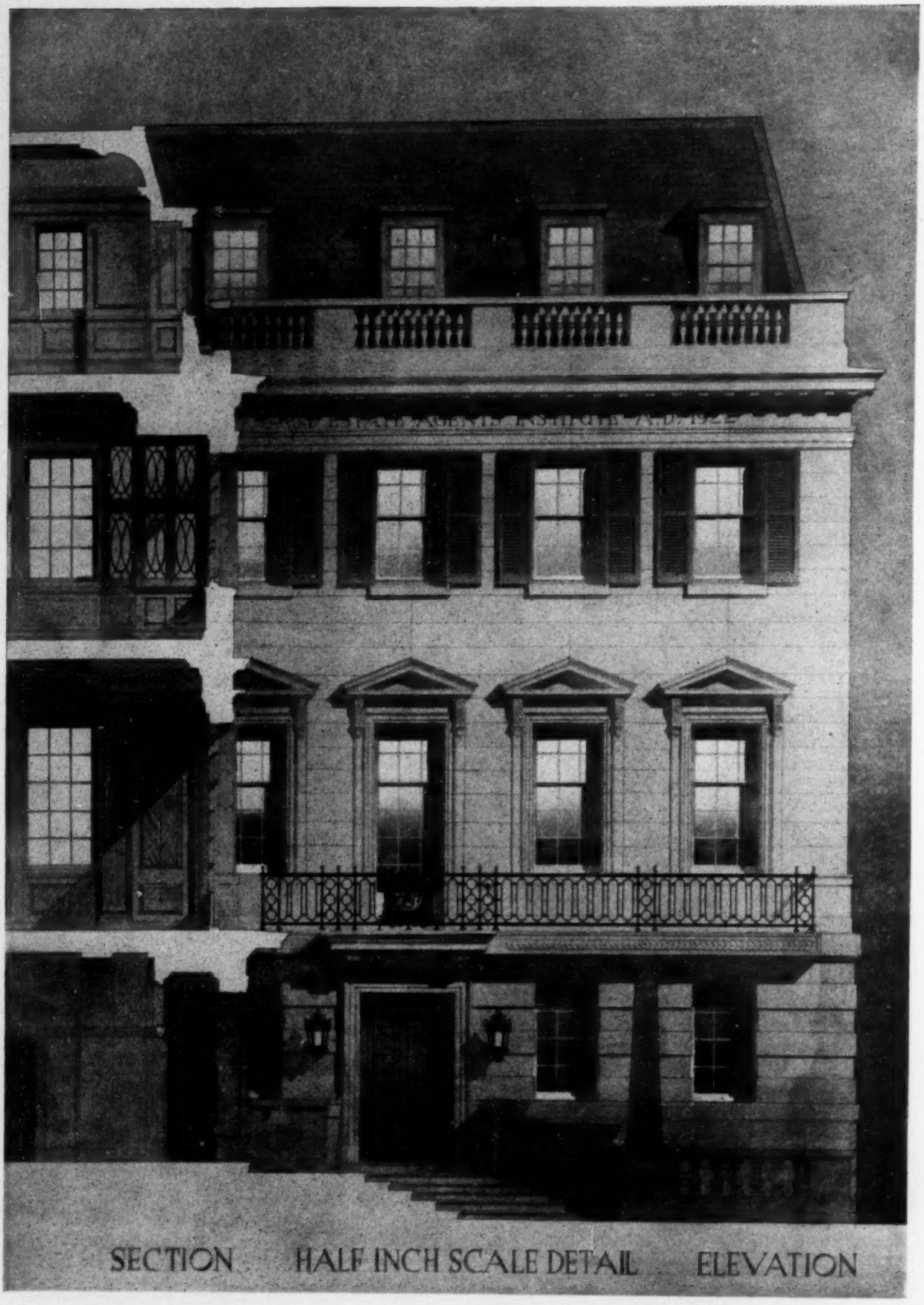


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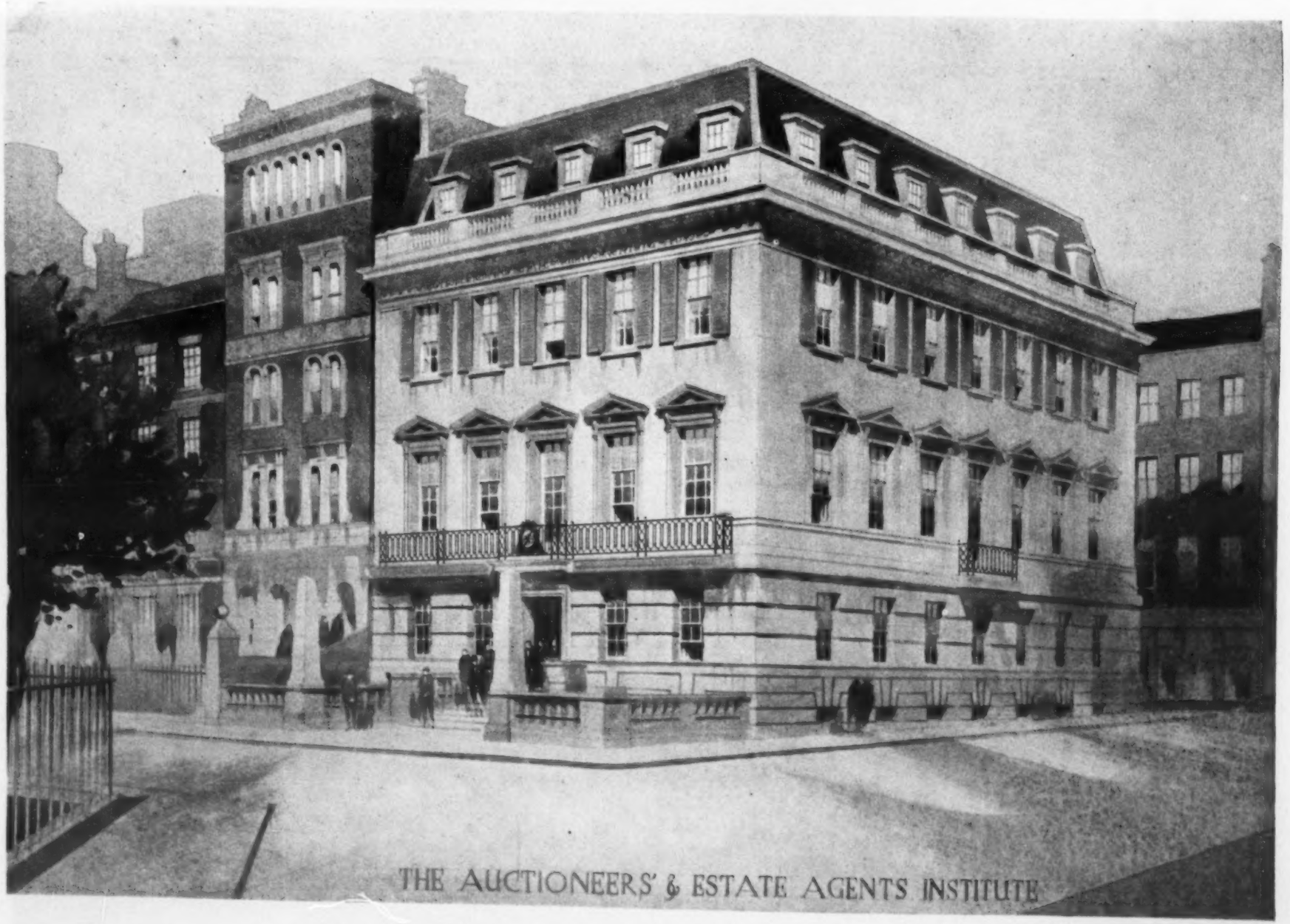


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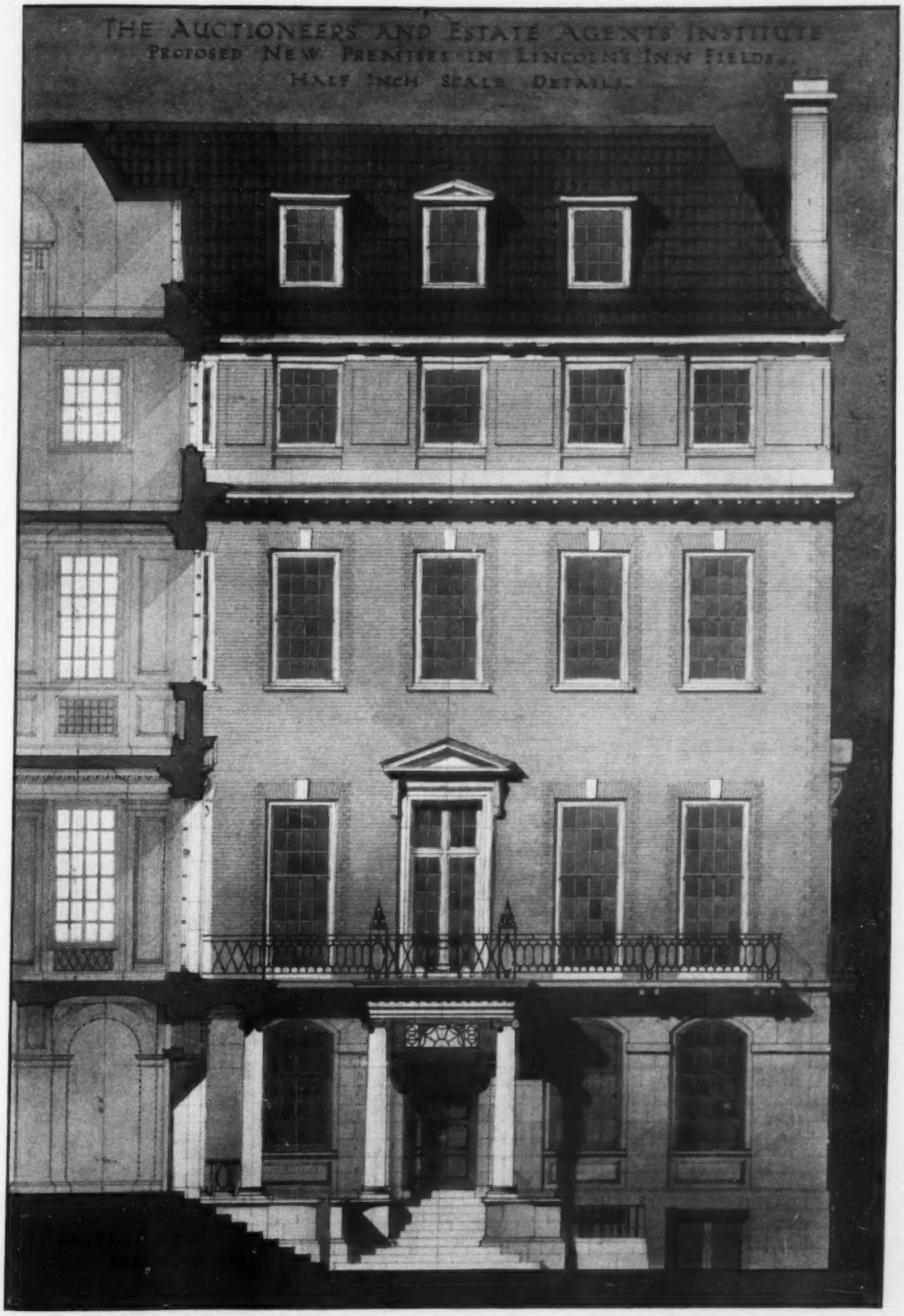
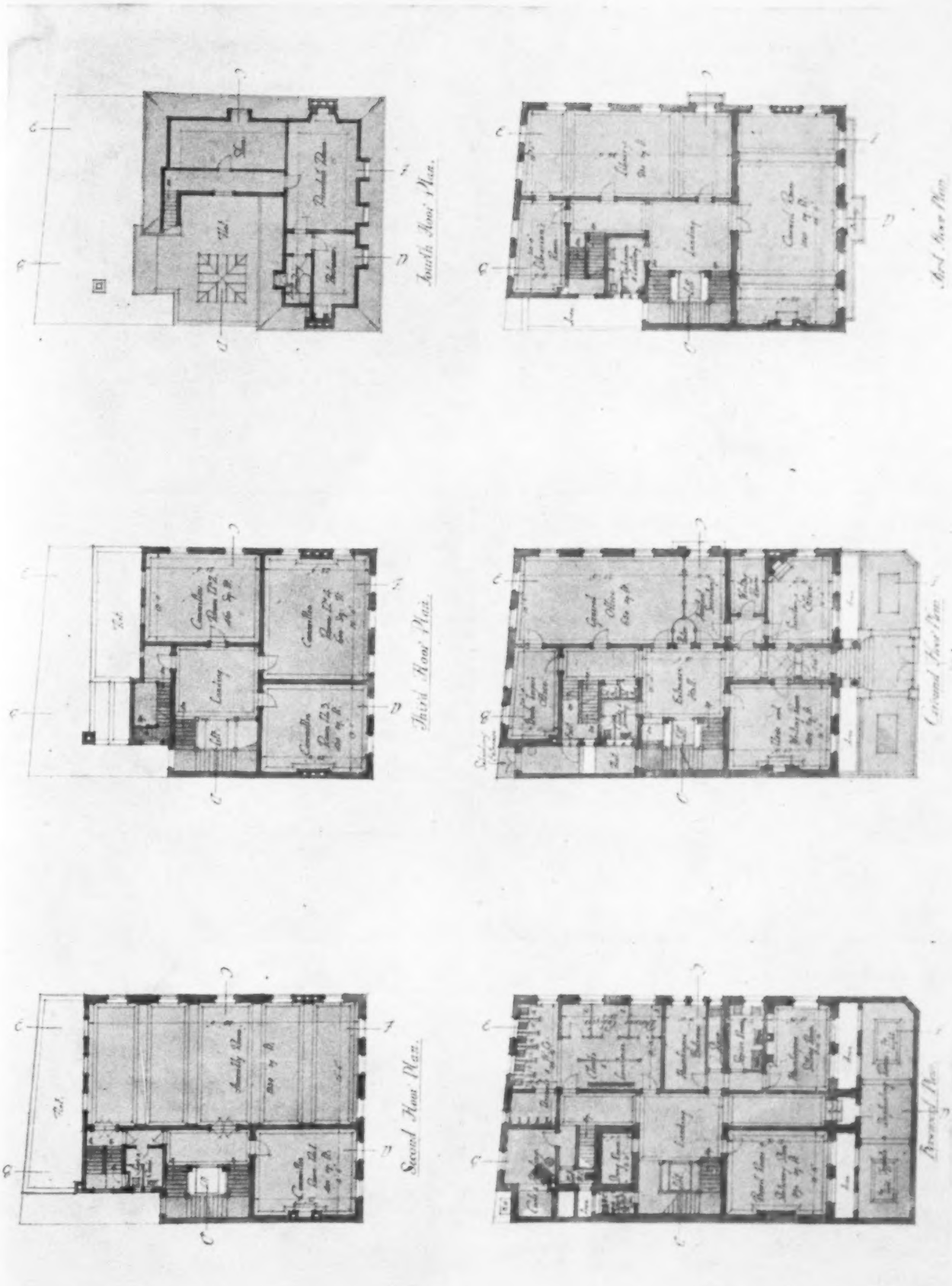



NEW PREMISES FOR THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

DESIGN PLACED SECOND, BY MR. S. N. COOKE, F.R.I.B.A.




NEW PREMISES FOR THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

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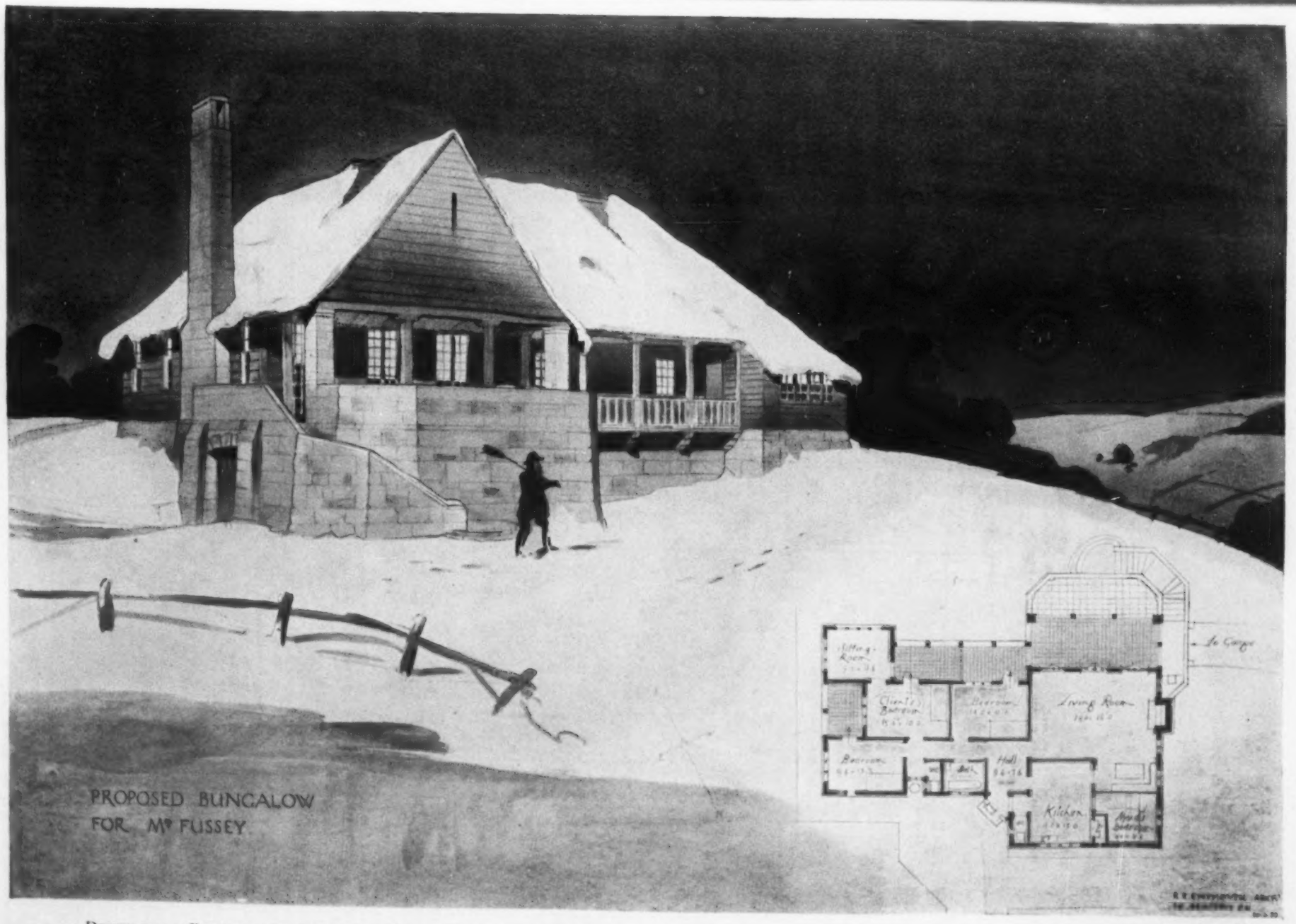
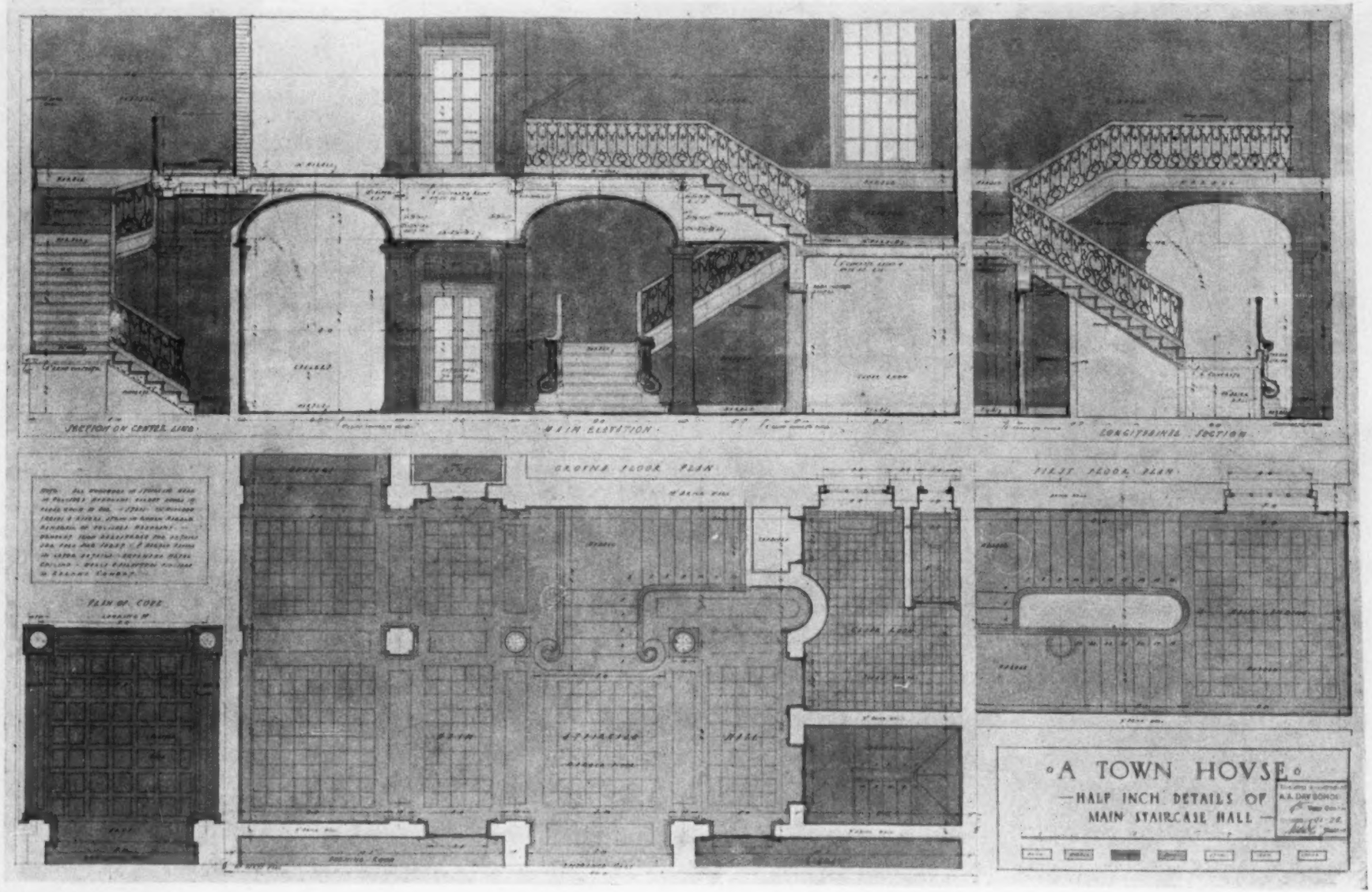



DESIGN FOR A BUNGALOW TO BE BUILT OF TIMBER (PERSPECTIVE AND SKETCH PLANS PREPARED FOR CLIENT). BY MR. R. E. ENTHOVEN (THIRD-YEAR STUDENT).

**Architectural Association School Students' Work.**




Design by Mr. D. Petrovitch (Fifth-Year—Construction—Student).

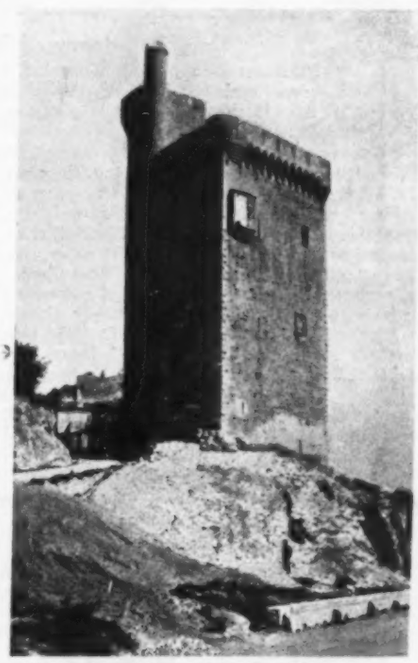
**Architectural Association School Students' Work.**

# A DEAD TOWN IN FRANCE.

MUCH has been said in praise of Avignon, probably more than it deserves, but a short walk or drive out of the Department of Vaucluse and over the suspension bridge which spans the River Rhone and crosses the Isle of Barthelasse brings the wanderer into another world altogether. The dead town of Villeneuve, no longer worthy of its name of "new," gradually looms on the view, a most attractive place as seen from the parapets and terraces of the public gardens which lie to the north-west of the Cathedral and the Papal Palace. Half-way to the town the visitor passes the tower of Philippe le Bel, an historical monument built in the fourteenth century, consisting of a very strong squarely-designed donjon, which was put up to protect the extremity of the Pont d'Avignon, or Pont Saint Bénézet, on the side of the Department of Gard, of which the Rhone is the boundary. The visitor, now in Gard, enters the decadent town of Villeneuve-lés-Avignon, on the right bank of the river, stated to contain over two thousand seven hundred inhabitants, but he will not see a dozen as he wanders through rough roads, innocent of all care and repair, along evil-smelling slums, and beside mouldering houses, almost every one of which would be condemned as unfit for human habitation by our parochial surveyors, a café or restaurant or two, a rickety portal, a rain-stained wall crying aloud for whitewash, and foul heaps of decaying rubbish, rightly called in French by a word to which we English attribute even worse things. As he turns a corner at the top of the ascent there suddenly confronts him the massive entry of the ancient Château.

Long ago the population was very much more numerous, but the streets—if we may call such miserably-neglected paths by such a name—are deserted, and the whole of the domestic buildings, in spite of their grand doorways and portals, in some cases adorned with armorial bearings of ancient families, give an appearance of a dead town. The guide-book says truly, "les rues en semblent-elles désertes et présentent-elles l'aspect d'une ville morte." Numberless ruins testify to its former prosperity; and antiquaries and artists will not regret the few hours spent among its remains. Feeble attempts appear to have been made to patch up crumbling parapets and weather-worn quoins and facings, but to repair thoroughly so vast a ruin would cost very many thousands of pounds, and therefore the decay must inevitably go from bad to worse until there is nothing but a heap of stones to mark the site of so interesting a place. Its history is well known; its origin is due to the foundation in the sixth century of a Benedictine abbey dedicated to St. Andrew on the mount then called Andaon, now topped by the vast fortification shown on the accompanying illustration. In 1096, Pope Urban II here preached the first crusade; in 1118, Pope Gelasius II consecrated the abbey church; in 1292, Philippe le Bel, hoping to attract a population, granted a charter of franchise to "The New Town." It was at that date that this King built the tower which bears his name, at the "Tête du Pont d'Avignon." In 1316 and after, the cardinals and popes—all French—covered the then flourishing town with palaces and monuments; a later king, in 1353, added fortifications; later still, from the 14th to the 18th century, the kings o France often visited Villeneuve, and the "States of Languedoc" assembled there in council.

**Fort of Saint-André, Villeneuve-les-Avignon.**



**Tower of Philippe le Bel, Villeneuve-les-Avignon.**

Among the points of interest may be mentioned the Hospice of the Trinitarians, wherein is preserved the Tomb of Pope Innocent VI (1362); a Gallo-Roman inscribed sarcophagus; several important paintings of renowned French artists; ancient objects of art, crosses, seals, coins, sculptures and coffers. In the Church of St. Pons is a painting by Guercino of the Annunciation, and a curious statuette in ivory of the B.V. Mary holding the Infant Christ is carefully watched over in the sacristy. The ancient Chartreuse, called "Domus B.M. Vallis Benedictionis," has a handsome portal, and its rooms are still inhabited. The town gate, bereft of its doors, still rears its magnificent side-pillars at the entrance of the high street. The River Rhone, in 1840, flooded this roadway to the height of six or more feet, and even higher in 1856. The fortress itself is of the fourteenth century, flanked with enormous towers, cylindrical, machicolated after the prevailing native fashion, fortunately well preserved, from the top of which the course of the Rhone and the left bank, from the Ventoux to the Alpilles, may be traced. Other and numerous remains of the sumptuous palaces and hostels of bishops and cardinals, now converted into private dwelling-places, and houses of the 14th, 15th, and 16th centuries curiously constructed in an original manner, deserve inspection before one departs from the dying environments of a bygone prosperity which has played many an important part in the mediæval history of France.

**Entrance to Chateau Villeneuve-les-Avignon.**

# SHOOTER'S HILL.

The London County Council will shortly enter into possession of twenty-two acres of woodland at Shooter's Hill, which it is proposed to adapt to the purposes of a public open space. The ground forms part of the Castlewood estate, and included in the purchase are a mansion house and a ruined tower known as Severndroog Castle. Adjoining the new park is the Well Hall Garden Suburb.

It was pressed upon the County Council last year that at least part of the property should be acquired, and it was originally suggested it should be used for the purposes of an open-air school, but in view of the fact that the entire purchase money of £6,000 was subscribed locally, mainly by the metropolitan boroughs of Woolwich, Deptford, Greenwich, and Lewisham, and by the Poulter Trust, it was decided to go in for the larger scheme.

The cost of the works to be carried out is estimated at £3,450, so that in round figures the scheme involves a capital outlay of £10,000. The estimated annual cost of maintenance is £810. Severndroog Castle, the ruined tower which forms part of the purchase, was built to the memory of a former proprietor of the estate, Sir William James, who distinguished himself against the pirates of the Indian Ocean in the second half of the eighteenth century. It commemorates in particular, his capture of the fortress of Severndroog, on the Malabar coast, in 1775. During the late war the ruin was a valuable aircraft observation post.

# THE ART GALLERIES OF WESTERN HOLLAND.

APART from their contents, the art galleries of Holland give food for much thought on the questions of lighting and backgrounds suitable for the exhibition of works of art, including, as they do, notable examples of domestic work adapted to new uses in the Mauritshuis and Municipal Museum at La Hague; modern galleries built almost regardless of cost with the idea of giving backgrounds designed in a manner contemporaneous with the pictures to be exhibited, as the Rijks Museum, Amsterdam; a notable effort in alcove planning in the same building; a modern gallery designed with all the evils attached to the last named under the constant observation of the architect in the Drucker wing of this Museum; a house designed for the dual purpose of habitation and display of modern works of art in the Mesdag Museum, La Hague; and a breaking away from the traditional top-lighted gallery in the new rooms of the Franz Hals Museum at Haarlem.

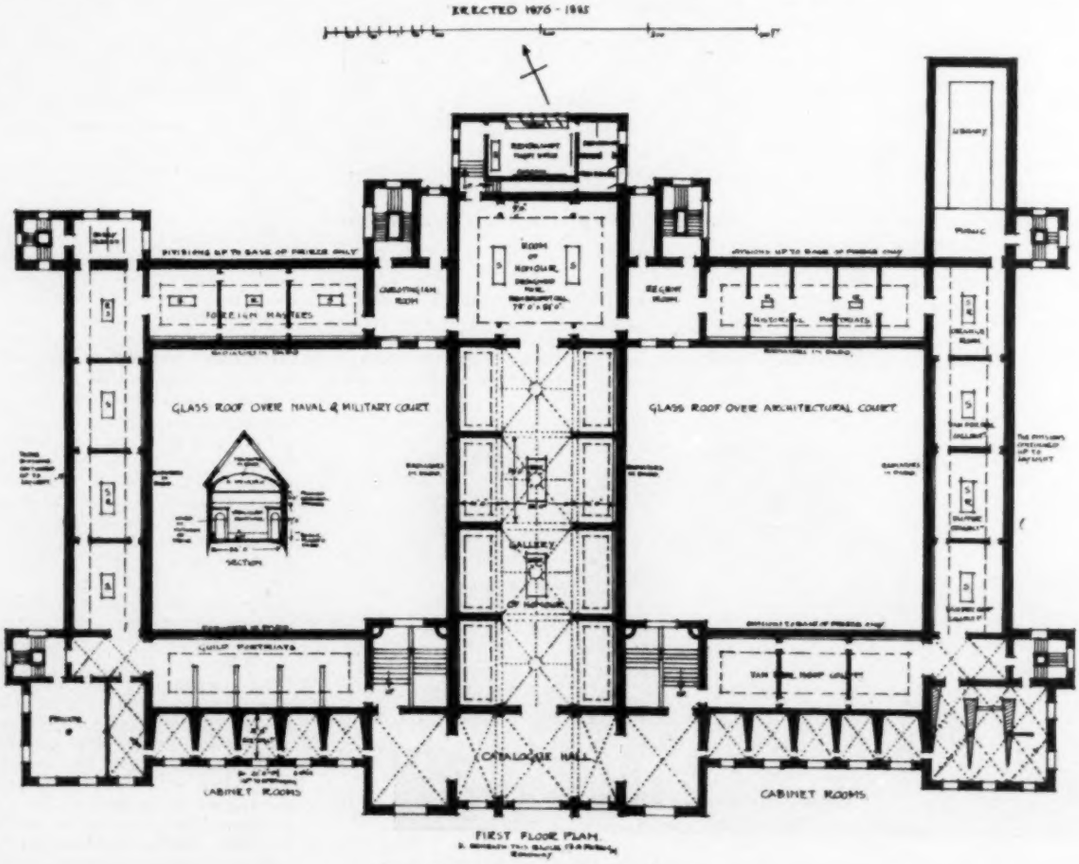
In thinking of Holland the mind at once centres on the Mauritshuis because of its world-famed collection, possibly with considerable fears in anticipation of bad lighting, which would appear to be the natural consequence of crowding a huge collection of masterpieces in an old dwelling. But in the house one is agreeably surprised, and on the whole one comes away with a feeling that the setting more than compensates for the disadvantages the evils of overcrowding are forgotten, and the impossibility of studying some of the pictures at all is balanced by the really splendid lighting and setting of the *chef d'œuvres*, even if these have had to be hung at angles that bear no relation to the wall on which they are hung. Two sections of the visitors to art galleries are more than satisfied—those who visit for the emotion a painting gives birth to, and those who visit with some knowledge; and only the smallest section, the connoisseurs, are somewhat disappointed.

**Gallery of Honour, Rijks Museum, Amsterdam.**

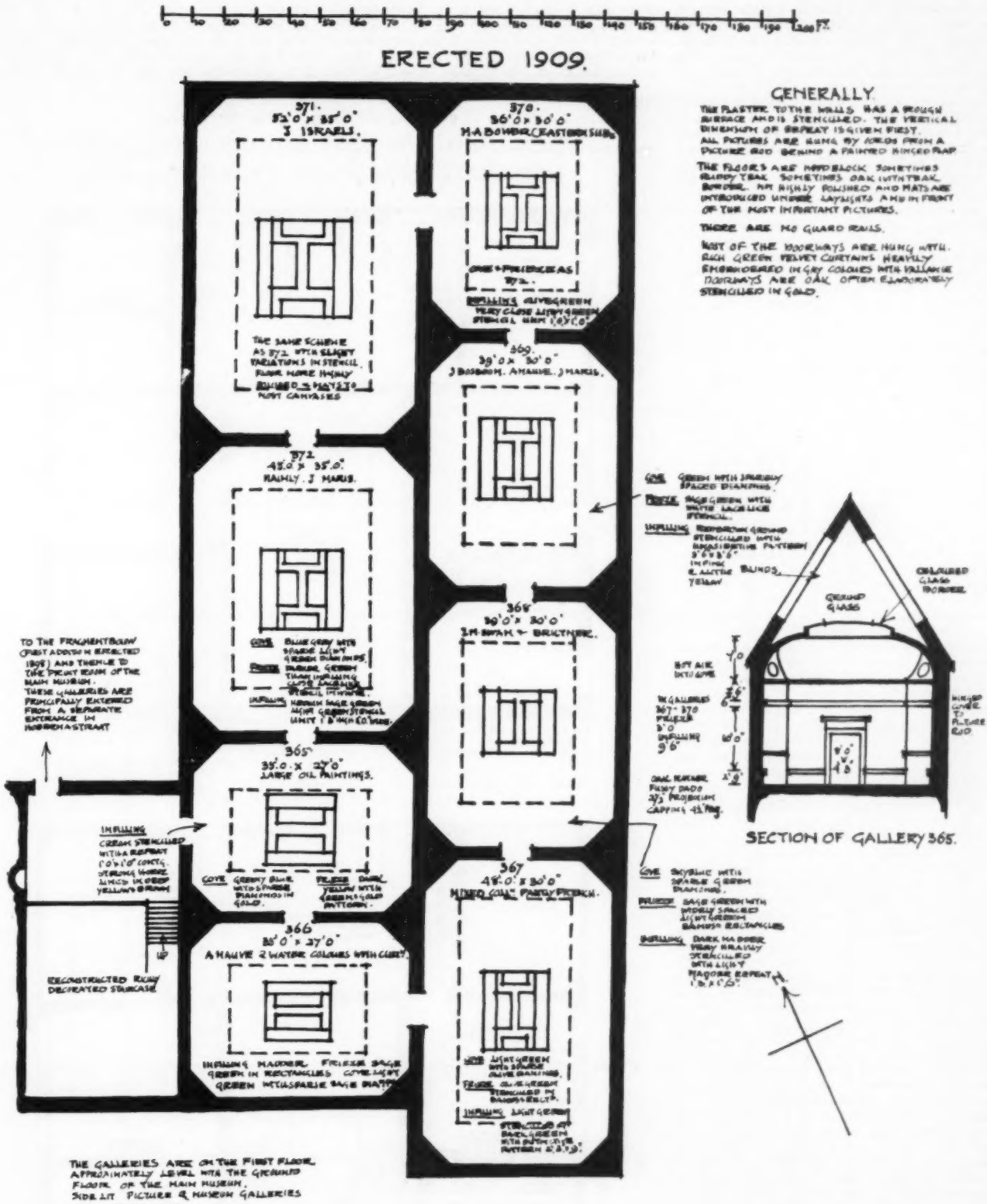
[Terrazzo floor with black marble (6 in.) rise to alcoves; heavily-painted piers and blind arches; only light to main hall through the eyes; 3 ft. black-painted plaster dado to alcoves; heavy green or red walls, 20 ft. to start of cove; segmental long light with glass lean-to over.]

Apart from the question of lighting, the plan of the house is admirably suited for the purpose and for good circulation. This has evidently been realised, for we find that when the Boijmans Museum at Rotterdam was rebuilt after the fire in 1863 the plan was copied almost identically, except that everything is on a somewhat larger scale, and top lighting (entirely absent in Mauritshuis) was introduced. In 1909 this museum was refitted and altered internally, and although, partly because of the fire, the collection of pictures is not as interesting as in many of the other galleries, the building is well worth close study in respect of its lighting and backgrounds, which include red-brown canvas and cream and green tapestry for the Old Masters, and sand-coloured canvas and brown velvet for the modern painters.

The Rijks Museum, Amsterdam, designed by P. J. Cuypers (1876-1885), is generally dismissed with the phrase, "the way not to do it." On the whole, we are afraid this is a justifiable comment. The root idea, to build backgrounds contemporaneous with the exhibits and to decorate the building so elaborately with stencils, vaults, and "architecture" as to distract from the objects on view, was wrong, and it must be confessed that hardly one gallery




**The Rijks Museum, Amsterdam.**


ERECTED 1909.
371.
52'0" x 35'0"
3 ISRAELS.
THE SAME SCHEME AS 372. WITH SLIGHT VARIATIONS IN STENCIL. FLOOR MORE HIGHLY POLISHED. NO MATS. MOST CANVASES
372.
45'0" x 35'0"
MAINLY J. MARIS.
COVE BLUE GREY WITH SPARSELY SET GREEN DIAMONDS.
FRIEZE DARKER GREEN THAN INFILLING. LIGHT GREEN STENCIL IN WHITE.
INFILLING MEDIUM SAGE GREEN. MORE GREEN IN FINAL UNIT 1'0" IN 6'0" WIDE.
365.
35'0" x 27'0"
LARGE OIL PAINTINGS.
COVE GREEN BLUE WITH DIAMONDS IN GOLD.
FRIEZE DARK YELLOW WITH GREEN & GOLD PATTERN.
366.
35'0" x 27'0"
A HALVE 2 WATER COLOURS WITH CLERY
INFILLING MADDER. FRIEZE SAGE GREEN IN RECTANGLES. COVE LIGHT GREEN WITH SAGE PATTERN.
370.
30'0" x 30'0"
H.A. BOMER (EASTERN SUBS)
ONE + FRIEZE AS 372.
INFILLING OLIVE GREEN VERY CLOSE WITH GREEN STENCIL UNIT 1'0" x 1'0"
369.
39'0" x 30'0"
3 BOSBOOM. A MAUVE. 3 MARIS.
368.
30'0" x 30'0"
2 M. SWAN & BRICKNER.
367
48'0" x 30'0"
MIXED COLL. PARTLY FRENCH.
COVE LIGHT GREEN WITH SPARSE OLIVE DIAMONDS.
FRIEZE OLIVE GREEN STENCILLED IN DARKER COLOUR.
INFILLING LIGHT GREEN STENCILLED WITH DARK GREEN WITH PATTERN 2'0" x 2'0".
GENERALLY
THE PLASTER TO THE WALLS HAS A ROUGH SURFACE AND IS STENCILLED. THE VERTICAL DIMENSION OF REPEAT IS GIVEN FIRST. ALL PICTURES ARE HUNG BY CORDS FROM A PICTURE ROD BEHIND A PAINTED HINGED FLAP.
THE FLOORS ARE HARDBLOCK SOMETIMES PARQUETRY TEAK. SOMETIMES OAK WITH TEAK BORDER. ALL HIGHLY POLISHED AND MATS ARE INTRODUCED UNDER SKYLIGHTS AND IN FRONT OF THE MOST IMPORTANT PICTURES.
THERE ARE NO GUARD RAILS.
MOST OF THE DOORWAYS ARE HUNG WITH RICH GREEN VELVET CURTAINS HEAVILY EMBROIDERED IN GRY COLOURS WITH VALANCE. DOORWAYS ARE OAK OFTEN ELABORATELY STENCILLED IN GOLD.
COVE GREEN WITH SPARSELY SPACED DIAMONDS.
FRIEZE SAGE GREEN WITH WHITE LACE LIKE STENCIL.
INFILLING RESPONSIVE GROUND STENCILLED WITH SMALL DISTINCTIVE PATTERN 3'0" x 3'0" IN PINK & A LITTLE YELLOW.
COLOURED GLASS BORDER.
GROUND GLASS
BOTTOM OF COVE
IN GALLERIES 367-370 FRIEZE 3'0" INFILLING 9'0"
OAK SKIRTING FLUSH DADO 3/4 PROJECTION CAPPING 4½" PROJ.
HINGED COVER TO PICTURE ROD
SECTION OF GALLERY 365.
TO THE FRAGMENT BELOW (FIRST ADDITION ERECTED 1896) AND THENCE TO THE FRONT ROOM OF THE MAIN MUSEUM. THESE GALLERIES ARE PRINCIPALLY ENTERED FROM A SEPARATE ENTRANCE IN HOBBEMASTRAAT
INFILLING CREAM STENCILLED WITH A REPEAT 1'0" x 1'0" CONSTY. STERLING MORRIS. MIXED IN DEEP YELLOWS & BROWN
RECONSTRUCTED RICHLY DECORATED STAIRCASE
UP
THE GALLERIES ARE ON THE FIRST FLOOR. APPROXIMATELY LEVEL WITH THE GROUND FLOOR OF THE MAIN MUSEUM. SIDE LIT PICTURE & MUSEUM GALLERIES ARE UNDERNEATH

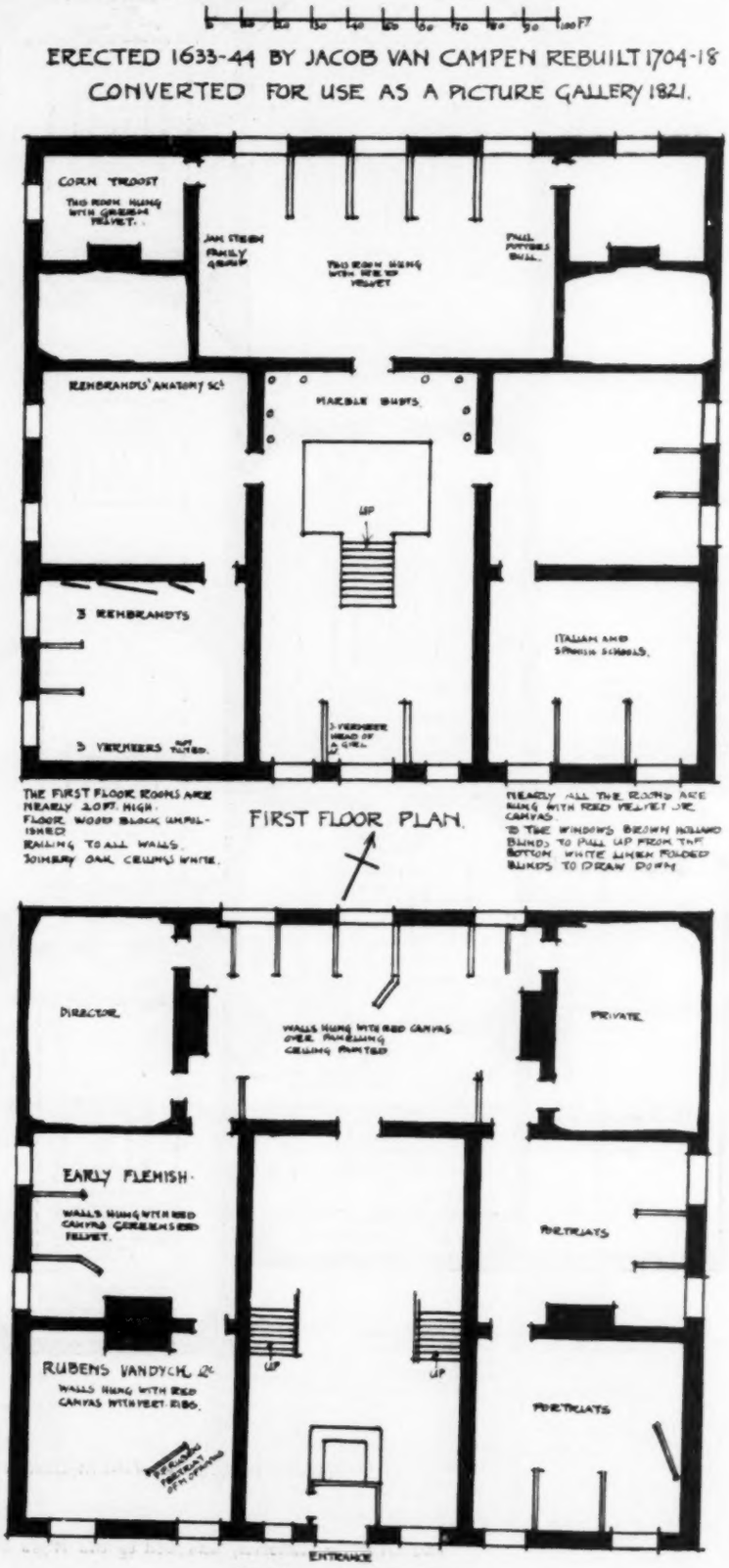
[Mainly Dutch artists of the Nineteenth Century].

**The Drucker Galleries, attached to the Rijks Museum, Amsterdam.**

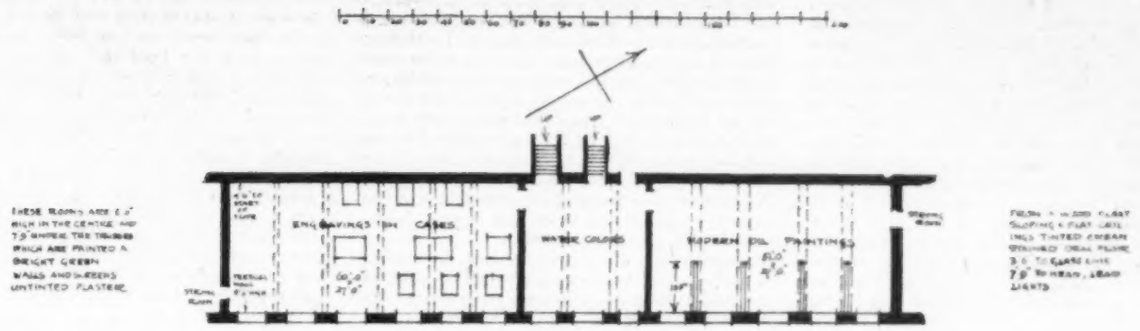
is well lighted, that some are hardly lighted at all, and most suffer excessively from reflection from the material employed for floor and walls. But the building does include certain features that were worthy of greater success than they achieved. The Gallery of Honour, with its ample walking space, almost in darkness, with well-lighted alcoves on each side, should be a notable achievement in gallery planning; unfortunately it is not so, as the alcoves are not well lighted, and as at present hung, with three tiers of mainly mediocre work crowded together on the walls, the result is very depressing. The grand vaulted vestibule for catalogues, etc., is practically dark, stained glass fighting with heavily-painted walls, and the desired contrast of an architecturally fine hall almost free of exhibits as a relief from the exhibition galleries is not obtained. The fine room especially built to enshrine the works of Rembrandt and to form the nodal point of the whole museum was such a failure that his works have been removed to a specially-constructed wing approached by an uninteresting staircase, giving a most hole-and-corner effect, and although the desired side light has now been obtained, and a most gorgeous-decorated casket in oak, heavily girt with dark-green velvet curtains, has been erected, the lighting has to be perpetually masked by unsightly wing screens and the constant manipulation of canvas blinds. Then the Cabinet Rooms, well placed with north light, giving the desired change in floor area from the large galleries, are so lofty and architectural in the grand manner that what one believed in anticipation would be most successful is found in fact to be as far from the ideal as the mind of man can conceive. The reflection in these Cabinet Rooms is so bad that even when all the untidiness of black hangings on movable screens before the pictures, massive valances to the windows, and black paint on the terrazzo floor have been resorted to, it is still impossible to see many of the pictures, including world-renowned masterpieces, for the reflection, the reason being an excess of architecture, vaulting, and decoration. What applies to the picture galleries applies even more to the Museum proper on the ground floor, and, unfortunately, to the first annexe ("het Fragmentengebouw") erected in 1898, and one comes away depressed with the failure of what, in spite of all one had heard, one felt from the plan must be a really satisfactory building.

In 1909 a new wing was added to this museum to house the Drucker collection of modern Dutch art, a collection worthy of a long pilgrimage, which remark, on the whole, applies also to the galleries, which, however, are a little monotonous in that each gallery repeats an almost identical plan though of somewhat different proportions, and even a change of axis is hardly devised. These galleries are on the first floor, all top-lighted with ground-glass lay lights, which included coloured glass borders. The doorways are oak, often picked out with gold; the floors are of wood blocks slightly polished; and the walls are of plaster left rather rough and stencilled with interesting and unassertive patterns in soft, harmonious colours that form admirable backgrounds for the works exhibited. In spite of the top light, reflection gives very little trouble owing to the materials employed, as warm and gay-coloured rugs have been placed in the centre of each room, and also against the walls where the greatest trouble occurred. As in other Dutch galleries, unlike the custom in this country, the picture-rod and cord is not taboo; here considerable attention has been given to the matter, and about 12 ft. 6 in. above the floor hinged and painted covers have been arranged between the picture background and the frieze, which varies in depth from 2 ft. 6 in. to 3 ft., the cove between the frieze and lay light being 7 ft. in radius. The blinds are arranged under the skylights, and not under the lay light, as is often the case. The visitor leaves these galleries with something added to his knowledge of the subject. The ground floor, naturally side-lighted, also gives much subject for thought, the small barrel-vaulted rooms, carried out in a scheme of cream and grey with the windows carried well up in one wall, being particularly satisfactory.

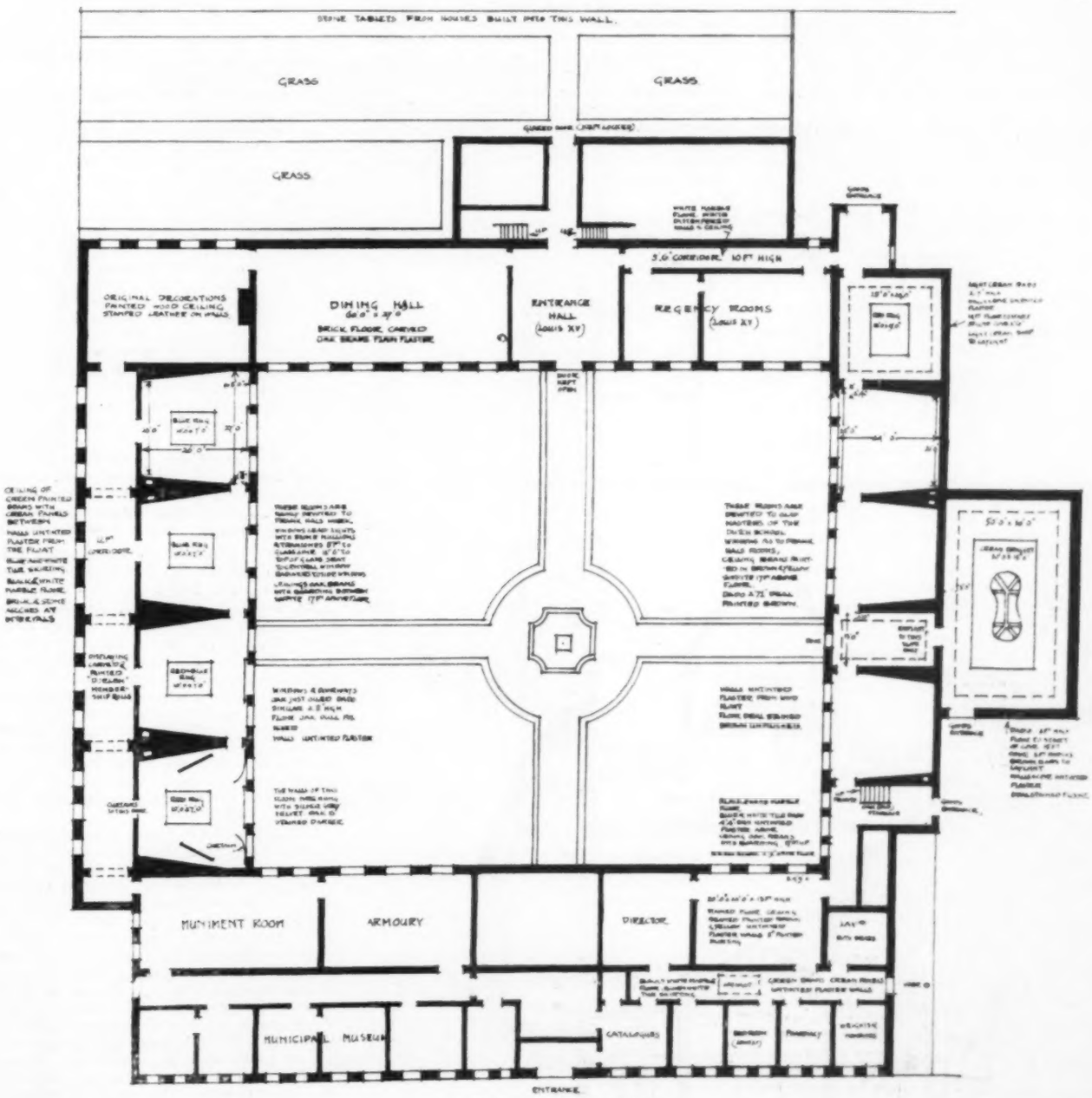
Probably the chief impression one carries away from Holland is the value of side-lighted galleries. This is specially emphasised in the work of Herr L. C. Dumont in his new galleries for the Frank Hals Museum at Haarlem. These rooms, based on the Cabinet Rooms at the Rijks Museum, although designed in the main for very large canvases, are satisfactory in every way. The opportunity to top-light the rooms was definitely abandoned, and small rooms, roughly 27 ft. by 26 ft. by 17 ft. high, with side walls at an angle of 81 deg. with the window wall were adopted. The glass line is 5 ft. above the floor and the top of the glass


ERECTED 1633-44 BY JACOB VAN CAMPEN REBUILT 1704-18
CONVERTED FOR USE AS A PICTURE GALLERY 1821.
CORN TROOST
REMBRANDTS' ANATOMY &c.
MARBLE BUSTS
3 REMBRANDTS
3 VERMEERS
ITALIAN AND SPANISH SCHOOLS
THE FIRST FLOOR ROOMS ARE NEARLY 20 FT. HIGH. FLOOR, WOOD BLOCK UNPOLISHED. RAILING TO ALL WALLS. JOINERY OAK. CEILINGS WHITE.
FIRST FLOOR PLAN.
NEARLY ALL THE ROOMS ARE HUNG WITH RED VELVET OR CANVAS. TO THE WINDOWS BROWN HOLLAND BLINDS TO PULL UP FROM THE BOTTOM WHITE LINEN ROLLER BLINDS TO DRAW DOWN
DIRECTOR
PRIVATE
WALLS HUNG WITH RED CANVAS OVER PANELLING CEILING PAINTED
EARLY FLEMISH
WALLS HUNG WITH RED CANVAS GREEN RED VELVET
PORTRAITS
RUBENS VANDYCK &c.
WALLS HUNG WITH RED CANVAS WITH FEET RIBS.
PORTRAITS
ENTRANCE
GROUND FLOOR PLAN.

**The Mauritshuis, La Hague.**




FIRST FLOOR PLAN




**The Frank Hals Museum, Haarlem.**

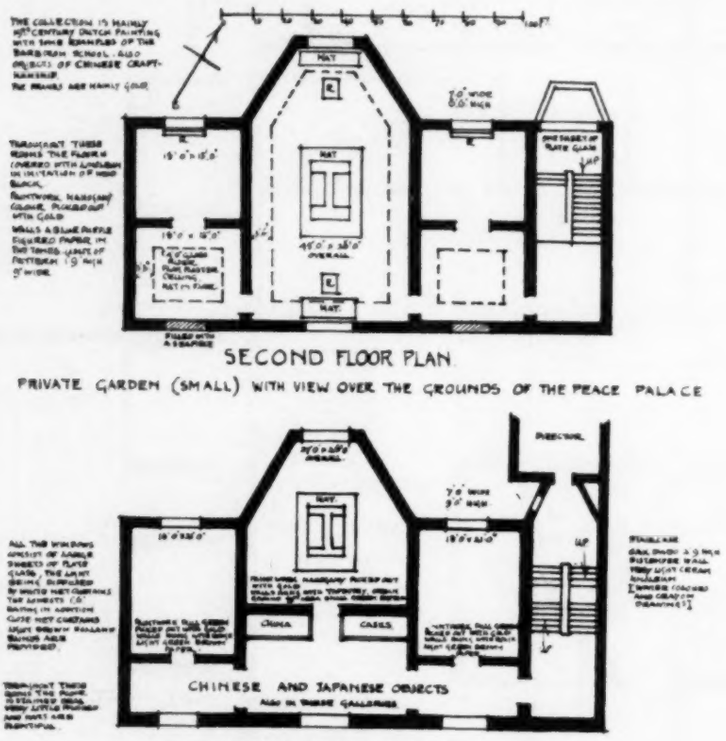
[Erected in 1608 as an almshouse by Lieven de Key; adapted for an orphanage in 1800; opened as a museum in 1913 after reconstruction of the connecting wings.]

1 ft. 6 in. below the ceiling. In the principal rooms the floor is oak, very slightly polished, the joinery and dado, 2ft. 8in. high, are of the same material, and the walls are of untinted plaster left slightly rough from a wood float. Anyone visiting this gallery after a tour of the galleries designed as large top-lighted halls is at once struck with the results obtained, and the added value to the paintings of putting them in a setting in scale with that for which they were conceived and against a background that is in no way assertive and has no reflective value at all. It is admitted, of course, that the problem here is in some ways unique, as the pictures once placed would not need to be constantly rearranged, and ample space was available. But that the directors think such a background is suitable for modern works and a growing collection is to be assumed from their adoption of a similar scheme on screens about 10 ft. long at right angles to the windows in the gallery constructed in this Museum from the former attics, which are only 8 ft. 6 in. high, a height considerably reduced by the heavy dividing trusses which have been painted a fresh green, and used for the exhibition of works of the modern Dutch school with most satisfactory results.

That a painter, himself a notable exponent of his art and a still more notable collector of the works of his brother artists of the modern Dutch school, was convinced that side-lighting is most suitable for the exhibition of their works can be assumed, although not without some question, from the Mesdag Museum at La Hague. Here we have a house certainly built to be lived in occasionally, but in the main as an exhibition gallery in which the centre half of the north wall of each room was filled with plate glass without bars from 3 ft. 3 in. above the floor to 6 in. below the ceiling, net curtains being hung over the whole to break up and diffuse the light. These rooms are particularly interesting to the student of the problem of the correct backgrounds for pictures, because obviously an immense amount of thought has been devoted to the subject. The paint-work is usually decided in tone, and in nearly every case is picked out with gold (green relieved with gold, for example), and the walls in some cases are distempered with light, non-assertive tones, sometimes papered with small figured paper (of red purple with light brown paper in one case, and in others with a tapestry of cream woven with green to cover about a tithe of the surface). The results are most restful, and greatly enhance the value of the works exhibited, which are further relieved by probably a unique collection of Chinese and Japanese objects.

The visitor to western Holland should not fail to visit Arij, Scheffer Museum at Dordrecht, although the works of the donor will probably not greatly interest him; many of the other exhibits certainly will. But here again he will be impressed mainly by how not to do it, not in this case because architecture is too assertive, for the building is rather like a barrack, but because it is too long and narrow, disfigured with high matchboarding dado painted a dirty brown, and the lighting is badly damaged by the round heads to the windows, and on the whole the effect of false environment is most strongly brought home.

Twice in their history the Dutch have had a great school of painting—in the seventeenth-century and at the end of the nineteenth-century—and under an enlightened Government and through the munificence of private donors they have made many experiments in housing their collections, from which the world at large can learn much if it will view the results with reference to the local conditions of atmosphere and the objects displayed.


SECOND FLOOR PLAN
PRIVATE GARDEN (SMALL) WITH VIEW OVER THE GROUNDS OF THE PEACE PALACE
CHINESE AND JAPANESE OBJECTS
FIRST FLOOR PLAN
SECTION

**The Mesdag Museum, La Hague.**

# BOOKS.

*Housing by Employers in the United States.* Bulletin No. 263. Washington: Bureau of Labour Statistics.

This volume of 280 pages contains not only a collection of valuable statistics on the subject of housing, but a considerable number of photographs and plans of building schemes and individual houses. The whole aspect of company housing is first briefly considered, and this summary is followed by chapters upon the reasons for supplying houses, details of conducting a housing scheme in which social as well as material problems are discussed, the details of accommodation, types of houses and their construction. Following these generalities, which occupy some fifty pages, a large part of the volume is devoted to the detailed description of schemes special to certain industries and districts in the United States, and these descriptions include particulars of cost of construction and details of administration and maintenance. Some fifty pages are then devoted to broad questions of finance, transference of property, and like problems, and finally appendices upon housing by employers up to 1918 are given. Though conditions in this country are, of course, in many respects dissimilar to those in America, this volume will be found of considerable value to anyone engaged in housing in this country.

*The Failure of Metals under Internal and Prolonged Stress.* (The Faraday Society, Essex-street, W.C. 1921). 10s. 6d. net.

This volume is a collection of papers and discussions held jointly by the Faraday Society, the Institute of Mechanical Engineers, the Iron and Steel Institute, Institute of Metals, and other bodies representing interests in the north. Edited by the Secretary to the Faraday Society, the volume contains a great deal of very valuable matter upon a difficult but highly important subject. Authorities like Dr. Rosenhain, Professor Porter, and Sir Henry Fowler are contributors to these pages, hence we may well feel satisfied that they contain the last word on the subject.

Dr. Rosenhain contributes an introductory address which gives a valuable general survey. Dr. Desch deals with failure due to chemical influences. Mr. Archbutt gives an interesting account of the failure of lead sheathing in electric cables, and papers follow on internal stress and micro structure. Other papers on more specialised lines follow, on fracture of boiler tubes, steel rails, and on what is known as season cracking in brass. We are all faced at times with the unexpected fracture of metals, and the only way to get over these defects is to stimulate research in order that the maker may be able to find therefrom a remedy. Nothing is likely to be more effective for this purpose than the joint meetings the results of which are before us, and, while the layman will not find in them any royal road to avoiding troubles, those interested in the advance of this subject have here a valuable epitome of the latest views upon its different aspects, to which we can warmly recommend them. Should another edition be published we would suggest the desirability of an index.

# THE ESTATES OF LONDON BRIDGE.

THE efforts now being made to save from destruction the arch of old London Bridge, and the reference back by the Court of Common Council to the Bridge House Committee of its report recommending the construction of a "St. Paul's" Bridge, have drawn public attention to the existence of the Bridge House Estates and to their enormous value; the gross rental alone (apart from interest on investments) now amounts to over £158,000 a year.

The origin of this fund can be traced as far back as the thirteenth century, when Peter of Colechurch was building the first stone bridge. The mediæval church taught that to build and maintain bridges was a most meritorious form of charity; it was also a form of neighbourliness, because, failing such help, the maintenance of certain bridges (among them that of London) became a local burden, being one of the three ancient obligations of all freeholders, the *trinoda necessitas*. Consequently the bridge was paid for largely, if not entirely, by gifts, and other gifts and bequests soon supplemented the income for its upkeep derived from tolls and from the rents of the houses upon it. Before 1265 it was rich enough to make it worth while for Henry III to transfer its custody from the citizens to his wife, who, says the City chronicle, "collected all issues of the rents and lands of the said bridge." She spent so little on repairs that by 1274 it was "perilously decayed"; hence, perhaps, the necessity for the grant made by Edward I to the Mayor and Commonalty of power to build upon waste lands near Woolchurch (where the Mansion House now stands) and on the north and east sides of St. Paul's Churchyard, and rent the buildings for the support of the bridge. In 1298 the Manor of Lewisham, still part of the estates, was obtained through one of the brethren of the chapel on the bridge. The series of leases among the Bridge House records begins about 1280, the Wardens' Accounts in 1381, when their receipts were over £755 (i.e., at least £15,000 in modern currency). Over two hundred bequests to the bridge itself, or to the citizens for its use, occur in wills enrolled in the Husting before 1500. The immense funds now available are due to the enormous increase in value of the lands acquired by such mediæval grants, gifts and bequests. At the Reformation they practically ceased, but the appreciation in the value of the property had already begun, and by the beginning of the seventeenth century the average annual rental was well over £1,000. In normal years this left a considerable surplus, which the Mayor and Commonalty, trustees for the bridge, regarded themselves as free to spend on other objects.

Apparently it was not until late in the eighteenth century that there was any thought of providing for an emergency either by letting a large sum accumulate or by raising capital on the security of the rental; for the outlay on the extensive alterations of 1758 was partly met by a Parliamentary grant. Soon after, however, the Corporation used the Estates as security for the capital spent in building Blackfriars Bridge, the loan to be repaid out of the tolls. The reports of two select committees of the House of Commons, on the Port of London, 1799–1800, and on the state of London Bridge, 1821, give statistics of the income and expenditure of the Estates extending together over a period of twenty-three years. The second concludes: "It appears . . . that the City of London hold in trust certain large estates . . . for the purpose of sustaining London Bridge," the yearly rental of which is over £25,000, increasing as leases fall in; and that these funds are available for the rebuilding of the bridge.

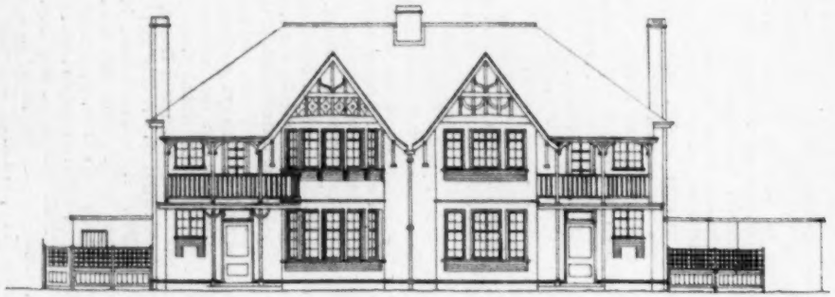
So the present bridge was erected; but by the middle of the nineteenth century a large annual surplus was again accruing. In 1854 one of the witnesses examined by the Royal Commission on the Corporation was Mr. Ferdinand Brand, comptroller of the revenues of the bridge, who described how the fund, "held in trust for the maintenance of London Bridge," had been "created by ancient grants from the Crown, gifts from different individuals, and purchases of property arising from the saving of the revenues at different periods"; and how it had been used to rebuild London Bridge and also, under Government authorisation, to repair, light and watch Blackfriars Bridge. In 1863, 1865 and 1867 the Mayor and Commonalty obtained Acts of Parliament empowering them to use the Bridge House Estates, of which they were seised "in trust for the maintenance . . . of London Bridge," to rebuild Blackfriars Bridge and purchase Southwark Bridge (built, 1813–19, by a private company); and in 1885 and 1911 similar Acts empowered them to raise money to build the Tower Bridge, rebuild Southwark Bridge, and "construct a new bridge between Blackfriars and Southwark Bridges"—the project whose fate is now in the balance. In each of these Acts provision was made for the maintenance, including policing and lighting, of the bridges in question.

The annual balance-sheets of the Committee may be studied by anyone in the series of printed accounts of the Chamberlain of the City in the Guildhall Library. An authoritative description of the present legal position of the Estates is to be found in the evidence (QQ. 529–74) of Mr. (now Sir John) Rotten, legal adviser to the Local Government Board, before the Royal Commission on the City and County of London, 1894. He acknowledged, in reply to questions put by Mr. (now Sir) Homewood Crawford, the City Solicitor, that there is no "special trust except in connection with London Bridge, other than that which may have come into existence by the voluntary act of the Corporation in promoting Bills for special bridges," and that "the preamble in every one of these Acts recognises the trust as a trust really for London Bridge."

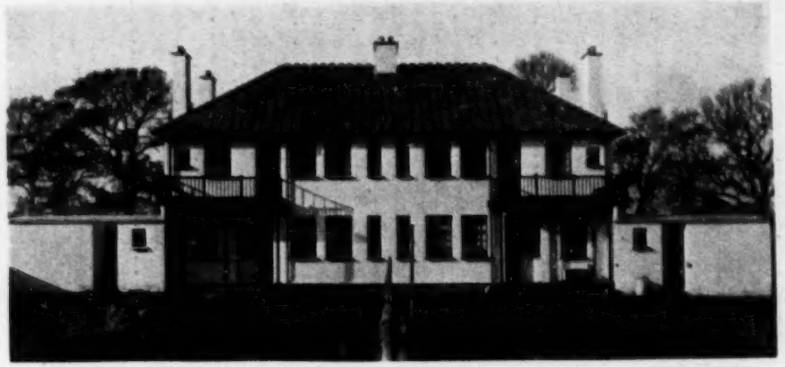
**War Memorial at the Office of the "Daily Chronicle," London, E.C**

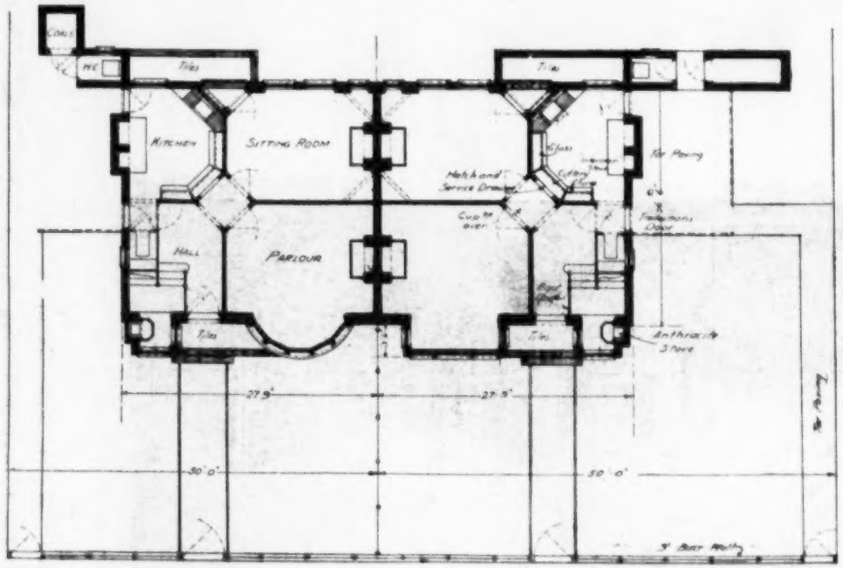
MR. GERALD WARREN, Architect.

[This war memorial has been erected by the staffs of the *Daily Chronicle* and *Lloyd's Sunday News* in the main hall of No. 12, Salisbury-square, E.C.4 It consists of a shrine in oak surmounted by a bronze inscription tablet. The architect is Mr. Gerald Warren, M.S.A., of 12, Norfolk-street, W.C.2, and the contractors Messrs. Arthur Vigor, Ltd., 20, Knightsbridge, S.W.]

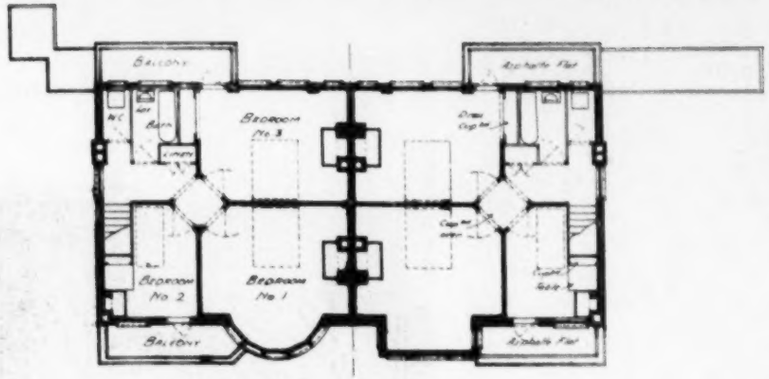


ELEVATION






GROUND FLOOR PLAN




FIRST FLOOR PLAN

# FOUR HOUSES AT THORPE BAY, ESSEX

Smee & Houchin
Architects
Byron House, Fleet St

0 5 10 20 30 40 50

SCALE OF FEET

[These illustrations show one of two pairs of recently-erected houses, having a frontage to Thorpe Hall-avenue of 190 ft. They are built of brickwork in cement, on Thames ballast concrete foundations taken down to gravel, and have been planned and fitted with the idea of minimising domestic work. The kitchens are provided with "Triplex" and "Inter-oven" stoves; gas stoves and plugs for electric heating have been installed; also a triple dresser (designed as a fitment for stores, china, and glass), a serving hatch into the lobby of the hall, and a cutlery drawer. The lower floors are of solid concrete, finished with oak and pitch-pine blocks in the hall and principal rooms. Bathroom walls are tiled. A bay window off the half-landing in the hall forms an alcove for a stove to warm the hall and the upper staircase. The houses are rendered with two coats of Portland cement finished with "Duresco" and red brick facings. Windows are of steel, by Messrs. Henry Hope & Sons, of Birmingham, and roof tiling by the Broomhall Tile & Brick Co., of Bridgwater. The front garden walls are fitted with single and double oak gates. The architects are Messrs. Smee & Houchin, of Byron House, Fleet-street, E.C.4, and the clerk of works is Mr. Flint, of Westcliff.]

# THE ROYAL SANITARY INSTITUTE.

## CONGRESS AT BOURNEMOUTH.—III.

WE give below abstracts of further papers read at the recent Congress of the Royal Sanitary Institute at Bournemouth :—

### TOWN PLANNING.

In a Paper on "Town Planning," MR. G. L. PEPLER, after pointing out the importance of town planning to the health of the nation, said the aim of the town planner was to avoid waste and to provide, in consultation with all those on whom the prosperity of the community depended and those who were in charge of its welfare, a framework within which all their progressive and beneficial activities—having a clear road before them because part of a general plan—could have the fullest possible scope to develop to mutual advantage. Before that general framework could be designed it was first necessary that a careful survey should be made of existing conditions and tendencies in order that plans for the future might be based on experience so that ample scope might be provided for the further development and expansion of all live and progressive features, and so that the ills that had to be removed might be recognised and repetition prevented.

The survey would show the function for which each part of the district was best suited, *e.g.*, the land offering the most healthy and attractive conditions for homes, the land best suited to industry, the transport facilities, and, where they needed to be developed or improved, areas where playgrounds must be provided, land particularly suitable for parks or for raising food, possibilities as to a civic centre, shopping and commercial centres, areas requiring reconstruction, etc.

Having ascertained those facts one could then prepare a town plan that would reserve suitable areas for their proper uses, and at the same time make provision for intercommunication so that the people might live in healthy surroundings, in homes so disposed and spaced as to receive the maximum amount of sunlight and clean air, not tied to their workplaces but within easy reach of them and of recreation and shopping facilities. It was not suggested that all those things should be settled with absolute rigidity and in minute detail. What was required was that the main lines should be laid down, but within those lines reasonable give and take was essential, provided that each problem was considered in relation to the general framework by the people responsible for it, and was not decided capriciously or merely to meet the exigencies of the moment. It was possible for all that to be achieved as regarded future development without cost to the present ratepayer other than relatively insignificant expenditure on survey and plans. It was clear that adjoining districts had a common interest in many of the matters which could not be dealt with efficiently unless treated strictly on merit without regard to district boundaries, as such boundaries rarely bore any relation to the factors that should govern development. The Town Planning Acts provided for joint action by neighbouring authorities, and it was encouraging to note the increasing use being made of those powers with a view to the preparation of joint outline schemes for regions comprising units of common interest. The national prosperity depended on the increasing provision of opportunities for good health and fine living, and to make that possible and to prevent waste it was essential that they should all work to a general plan.

#### Discussion.

MR. MARSDEN (Borough Engineer, Bradford) said Bradford had derived very great benefits from the adoption of town-planning principles. They had found that it was of the utmost importance to get a comprehensive plan for the arterial roads, and also for the through roads in the city itself. It was found as a result of the town planning schemes that more building was being undertaken.

MR. R. R. SCOTT outlined the regional planning schemes being carried out in Tanganyka, East Africa. The area was recently taken over from the Germans, whose ideas of town planning were extremely good.

MR. H. M. MARSHALL (Doncaster) said in Doncaster great value had accrued from the formation of town-planning conferences in interesting the general public in the schemes. Doncaster was in the centre of a coal-mining area, surrounded by twenty collieries within an area of twenty miles, and suffered from subsidencies. It was proposed to ask the colliery owners to subscribe to a fund which would be used to make good any damage caused by subsidence.

MR. T. A. LEWIS (Croydon) said Croydon had special difficulties in regard to roads, because it was practically a suburb of London. The main road was narrow and unsuitable for a very large volume of traffic, and a relief road was now under construction. The new by-pass road was four miles long, and would save a quarter of a mile as compared with the present main road. The Town Council had just finished town-planning its area in four schemes, and had concentrated on the provision of arterial roads, all of which would be 60 ft. wide. The by-laws stipulated that all roads in the borough must be 40 ft. wide, and the Council itself paid for the extra 20 ft. which the new regulations required.

MR. FRANK (Plymouth) said he had already found that some of the tenants on the housing schemes in Plymouth were asking for garages, and the provision of such buildings would be a problem to be solved in the near future.

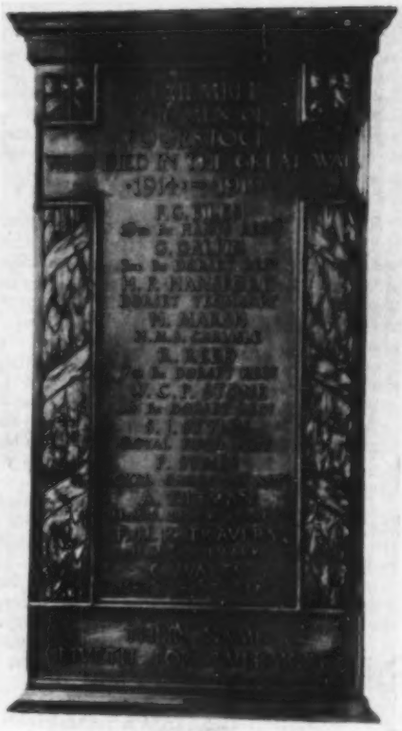
MR. MANNING ROBERTSON said it seemed to him that the most important point was to interest the general public in the making of by-laws. There were certain cases where local authorities seemed to regard by-laws as direct inspirations from Heaven which must not be touched at all. Certain provisions contained in the by-laws might be overlooked with advantage; for instance, the provision of footings for cottages had been abandoned by the Ministry of Health, but was still insisted on by certain local authorities. If the ratepayers took more interest they would be able to inspire the local authorities to do better.

MR. W. R. DAVIDGE gave an outline of the London Building Acts, and pointed out that in several respects they were out of date and quite unsuitable for present-day requirements.

### THE TECHNICAL SIDE OF HOUSING.

A paper, entitled "Housing from a Technical Point of View," by MR. W R. DAVIDGE, F.R.I.B.A., was taken as read.

After outlining the methods pursued in pre-war housing schemes, and the pressure brought to bear on the Government during the war with a view to improving housing, the paper said the result of the giving way to that pressure immediately altered the technical aspect of the question. The lay-out and aspect of the house for the first time received official consideration. It was recognised that the principal living-rooms should be arranged to get the maximum of sunlight possible, according to the time of day in which the room was likely to be used; that the larder should face north or at any rate be protected from the direct rays of the sun; that the drainage of the house should be grouped either in the front or the back of the house with a view to economy, and that every house should have a bath and, if possible, a bathroom. "By-law" roads were to be no longer a necessity, and the width was to be in future regulated not by a hard and fast by-law but according to the traffic expected, and economy in road planning strongly recommended. A minimum of three bedrooms was regarded as essential, and minimum sizes of rooms were recommended. The minimum frontage for an ordinary living-room type cottage was from 21 ft. 6½ in. to 23 ft. 3½ in., as compared with the 16 ft. or less of 1913.



**Poorstock War Memorial.**

MR. CHARLES W. PIKE, Architect.

[This memorial is mounted on a slab of slate inside the church tower. The tablet was cast in bronze by the "Kupron" process from models made by Mr. Alfred Buxton, sculptor, of East Sheen. The design is by Mr. Charles W. Pike, of Dorchester.]

A close study of plans prepared for various housing schemes would show how economically most of them were planned. Much controversy had raged over the height of rooms, which were recommended as 8 ft. from floor to ceiling. Many councils asked for 9 ft. to comply with local by-laws, and the L.C.C. successfully claimed the right to increase the height to the dimension required by the London Building Acts, viz., 8 ft. 6 in. Steep pitched tile roofs, although not exactly recommended, were certainly encouraged as an additional amenity and it was particularly desired to avoid the monotony of repetition, except possibly as to standardisation of detail—doors and fittings, windows, &c.

In practice, after three years, it was found that owing to stringency of national finance and the damaging effect of rising prices it was necessary in many cases to curtail the sizes of rooms somewhat below the "Manual" standard, and at the same time to eliminate many architectural features which might otherwise be desirable. Everybody recognised that those curtailments were necessary, but even so the standard of cottage building was distinctly improved so far as amenity and convenience were concerned. Much had been done, but very much more remained to be done. The Government had not yet announced what it proposed to do when it had completed the whole of the 176,000 houses to which at present it had set its hand, but it was evident that some form of municipal housing would have to be continued, and so long as the Rent Restriction Acts were in force some form of assistance or contribution from national funds, either for the purchase of land or by other State grant, was almost essential if housing was to be provided where most needed. The recent report of the Unhealthy Areas Committee of the Ministry of Health opened out a huge field for further effort, but it was evident that little, if anything, could be done to improve slum conditions unless the supply of new houses was sufficient to allow a portion of the defective houses to be removed or reconstructed each year.

The Committee emphasised particularly the need for a definite plan for the development of London and similar large cities. It was absolutely essential that a carefully-considered plan should be drawn up, and equally essential that housing conditions should be still further improved by a steady programme of consistent work spread over years and possibly generations.

### HEATING AND HOT-WATER SUPPLY.

MR. A. H. BARKER, in a paper on "Domestic Hot-Water Supplies and Heating," said there were, broadly, two different sets of requirements in regard to domestic heating and hot-water supply, namely, the constant supply required in the large house and the intermittent supply required by the small house. After some general remarks on the subject, he summarised the considerations which should govern the design of the hot-water supply to any house :—

(1) To how many taps was it necessary that constant hot-water should be circulated so that it should be available immediately the tap was opened, and in what quantity.

(2) Where a constant supply was necessary, the taps should be placed as near as possible to the storages, or the storage as near as possible to the tap.

(3) The reserve of hot water should be kept stagnant, and not allowed to circulate through the pipes except where absolutely necessary.

In cases where only occasional hot water was necessary, say, once or twice a day, as, for instance, in bedrooms, it was much more economical to generate it by gas than by a constant circulation from a central system. To carry out those principles in practice it was very desirable that for a general supply there should be in the upper part of the house, preferably at the top, a large storage tank of hot water, very heavily coated with the best non-conducting composition available. That only need be heated up once in twenty-four hours by a special fire in a boiler made for the purpose. The pipes leading to the baths should not be circulating pipes, but simple draw-offs from the upper part of the cylinder or tank.

A circulation should be maintained only to those portions of the building where immediate hot water was really necessary, and where a local insulated storage could not be provided. The most economical method would be to provide a local heavily-insulated storage for each tap which was being constantly used, and not to burn fuel continuously in order to maintain the circulation to the point.

The number of hot-water taps should be cut down to the lowest possible point. Provision should be made for heating water for local taps which were rarely used.

The efficiency of an instantaneous heater was commonly about 25 per cent. A liberal basin of hot water for hand washing consisted of about half a gallon at a temperature of 130 deg. F. Assuming gas at 1s. a therm, the cost of a hand basin full of hot water was one-fifth of a penny. If that were required twice a day the annual cost was about 12s. When the circulation was maintained from a point 20 ft. away, and assuming the circulating pipe was kept hot for twelve hours a day, and that the efficiency of the supply was 20 per cent., the daily cost of maintaining the supply would be 1d., or 25s. a year.

Another very desirable method was a locally placed, small, highly-insulated reserve constantly heated day and night by a small current of electricity. There would be no difficulty in insulating a small supply so that the loss of heat for it would be very small, and the efficiency could be raised to 50 per cent. A small supply of that character could be maintained at a cost of not more than 10s. a year with electricity at ½d. a unit.

The importance of a high efficiency in the boiler was, of course, great. If a highly efficient boiler could be provided and coupled to a highly-insulated storage tank that would provide the major part of the requirements, such as baths, domestic and laundry purposes, at a very low cost, while the other requirements could be supplied by the detailed methods already outlined. The same principles would hold in connection with the supply of heat to a house. Certain rooms, such as living-rooms, had to be constantly heated throughout the year, while others had only occasionally to be warmed. A supply of heat was also required for halls and staircases, so that the house as a whole was kept aired and at such a temperature above the outside air that there was no danger of the deposit of damp when the humidity in the atmosphere changed. It was only necessary very occasionally to heat bedrooms, and a radiator was not a necessity; the requirements of bedrooms could be easily supplied by gas fires or electric radiators if their use was frequently required.

## THE WEEK IN PARLIAMENT.

WESTMINSTER, *Wednesday.*

### Ex-Service Men and Building.

Capt. W. Benn asked whether the scheme for employing 50,000 ex-Service men by the building trade employers with a view to their admission into the skilled ranks after a two years' training had proved a success, and if the whole of the 50,000 were now so employed?

Dr Macnamara, the Minister of Labour, said that representatives of the employers advised him that on account of the continued and widespread depression in the building trades, it was not possible to make progress with the scheme. After consultation with them, and with the representatives of the operatives, it was decided to concentrate on the training of disabled ex-Service men for the building trade. In the result, the National Trade Advisory Committee for the building trades had recently agreed to pass further disabled men for training in the building trades. He hoped, with the aid of this decision, to bring the total number of disabled ex-Service men passed for training in the building trade up to 10,000—an addition of about 3,000 to the number already admitted for training.

### Completed State-aided Houses.

Sir A. Mond informed Sir Wm. Davison that on July 1 the number of houses completed under State-aided schemes was :—

| | |
|---|---|
| By local authorities and public utility societies .. .. .. .. | 122,807 |
| By private builders under the Government subsidy .. .. .. | *36,803 |
| | 159,610 |

*Further claims have since been received in respect of 1,832 houses completed by June 23.

| | |
|---|---|
| Houses under construction (by local authorities and public utility societies) .. .. .. .. | 35,971 |
| Balance of houses remaining to be built by local authorities which had not been started .. .. .. .. | 17,222 |

The total capital cost of the assisted housing schemes when completed is estimated at £190,000,000.

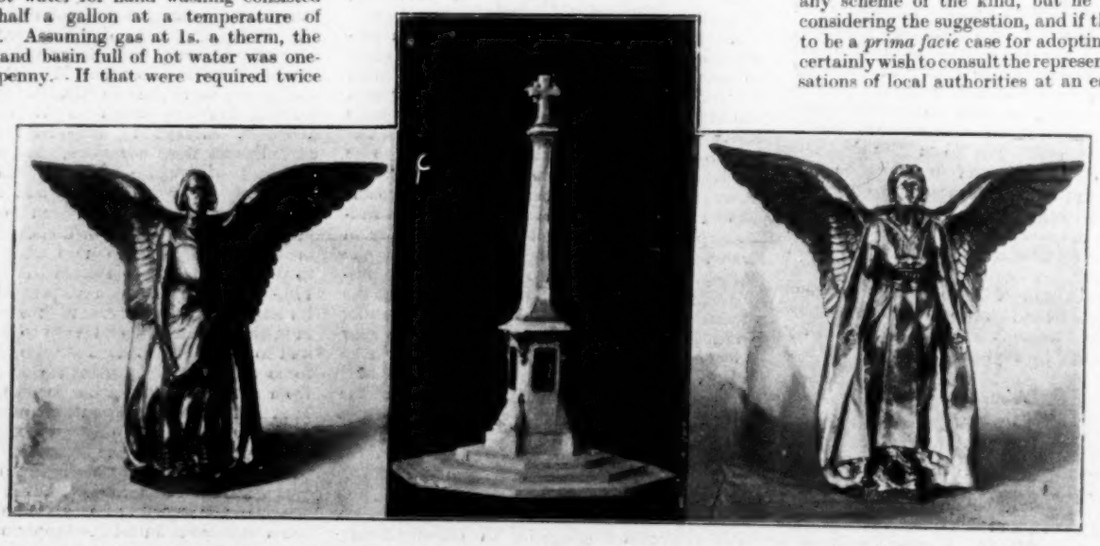
### Rent Act Complaints.

Sir C. Kinloch-Cooke asked the Minister of Health whether he was aware that there were a number of hard-working people who, by reason of their thrift, had been able to purchase a house to live in but who, under the provisions of the Rent Restrictions Act, were unable to obtain possession, either in whole or in part, of their property, while the tenants themselves were making a large profit by sub-letting and taking in paying guests; and whether he could see his way to put an end to such a state of affairs, either by amending the Act or by setting up local tribunals before whom cases of this kind could be heard.

Sir A. Mond said he had received some complaints of this nature and he proposed to bring them to the notice of the Committee which had just been appointed to consider the operation of the Act.

Sir W. de Frece asked the Minister of Health when the Cabinet would be able to consider, as suggested, the desirability of temporarily assisting private building enterprise by partial or complete remission of rates.

Sir A. Mond said he was afraid that there were serious difficulties in the way of adopting any scheme of the kind, but he was carefully considering the suggestion, and if there appeared to be a *prima facie* case for adopting it he should certainly wish to consult the representative organisations of local authorities at an early stage.



**Stratfield Mortimer (Berkshire) War Memorial.** MR. HERBERT MARYON, Architect.

[This memorial was recently unveiled. The bronze figures at the corners of the base represent "Honour," "Justice," "Fortitude" and "Victory," the first and last of which are illustrated above. An experiment has been tried of electro-gilding all the bronzework, with a view to giving it a surface which will retain its colour.]

# ELECTRIC LIFT EQUIPMENT FOR MODERN BUILDINGS.—V.

BY RONALD GRIERSON, A.M.I.E.E., A.M.I.Mech.E.

## WINDING ENGINES, GEARING, AND MOTORS.

### Definition and Classification of Winding Engines.

THE winding engine consists of the drum or vee sheave, the gearing (if any), the motor, and the brake, all mounted upon a common bed-plate, formed of cast iron or rolled steel joists. Briefly stated as above, the proposition, superficially considered, appears to be an extremely simple one, but actually in practice it is complicated, due to the numerous and special requirements which must be met in order to obtain the permanently reliable, silent, rapid and vibrationless machine, which the present-day purchasers, with every reason, demand.

Hitherto, winding engines have commonly been classified according to the type of drive adopted, *i.e.*, drum, vee sheave or half-wrap traction, and cross-over or full-wrap traction. This method sufficed until modern developments demanded a departure from the standard type of gear then used, but with the introduction of new methods a new classification was necessary, and the type of transmission or gearing was considered to be a more suitable basis.

FIG. 34.—GEARLESS TRACTION LIFT ENGINE.

Winding engines may either be built gearless (which is the latest development for modern high speed, long travel machines) or with the undermentioned types of gear:—

(*a*) Single worm and gear.
(*b*) Single herringbone gear.
(*c*) Tandem worm and gear.
(*d*) Single worm and gear with external spur back gearing.
(*e*) Single worm and gear with internal spur back gearing.
(*f*) Car levelling single worm and gear.

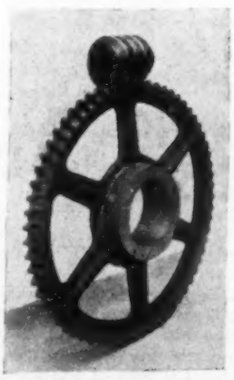


FIG. 35.—WORM AND WHEEL.

### Gearless Traction.

In the gearless type, which is suitable only for traction drives, the vee sheave is mounted directly on and keyed to an extension of the motor shaft, so that it will be seen that the motor armature or rotor requires to make one revolution for each revolution of the vee sheave (Fig. 34). The sheave, therefore, must be of large diameter in order to ensure a reasonable life for the ropes, and this condition calls for an abnormally slow speed motor, which is, comparatively speaking, larger, heavier and more expensive than the standard range of lift motor running at 600 to 1,000 revolutions per minute. In the discussion on Suspension Ropes it was stated that, for long life, the sheave should be at least forty times the diameter of the rope and, assuming a ¾ in. diameter rope, the minimum sheave diameter would be 25 ins. The speed of the motor, in revolutions per minute, for various car speeds, with one-to-one and with two-to-one roping, would, under these circumstances, be as follows:—

MOTOR SPEEDS FOR GEARLESS WINDING ENGINES (25 in. Sheave).

| Car Speed, ft. min. | 350 | 450 | 550 | 650 |
|---|---|---|---|---|
| Motor r.p.m., roped: | | | | |
| (*a*) One-to-One | 54 | 69 | 85 | 100 |
| (*b*) Two-to-One | 108 | 138 | 170 | 200 |

Generally speaking, the increased cost of the slow-speed motor will be found more than to balance the saving on the first cost of the gear, but the operating cost of the gearless type is much lower than any of the geared type of engines, as the reduced efficiency of the motor, due to the lower speed, is almost insignificant as compared with the gain in efficiency obtained by eliminating the gear.

APPROXIMATE PRICES, EFFICIENCY FIGURES AND WEIGHTS FOR A DIRECT CURRENT 25 H.P. MOTOR AT DIFFERENT SPEEDS.

| Speed. R.p.m | Price. £ | Efficiency. Per cent. | Weight. Lbs. |
|---|---|---|---|
| 1,150 | 124 | 90.0 | 1,484 |
| 760 | 150 | 88.5 | 1,850 |
| 520 | 174 | 88.0 | 2,800 |
| 270 | 254 | 87.0 | 4,216 |
| 230 | 306 | 85.5 | 5,866 |
| 190 | 330 | 85.0 | 6,970 |

Due to the limitations of motor speed, car speeds with the gearless engine roped one-to-one lie between 400 and 700 ft. per min. and may not, therefore, be expected to be extensively used in England in the very near future It is a very smooth and quiet machine in operation, and gives a high full speed operating efficiency over long travels. Two-to-one roping, due to the higher motor speed, permits of a car speed of 400 to 500 ft. per min. This machine has until recently been built in the U groove, full-wrap traction or cross-over drive type, giving ten rope bends and a lower full speed efficiency. Recently, however, a half wrap or ordinary vee sheave machine, also roped two-to-one, has been built, thus reducing the number of rope bends to six, which is equal to one-to-one roping, and the efficiency will probably be similar.

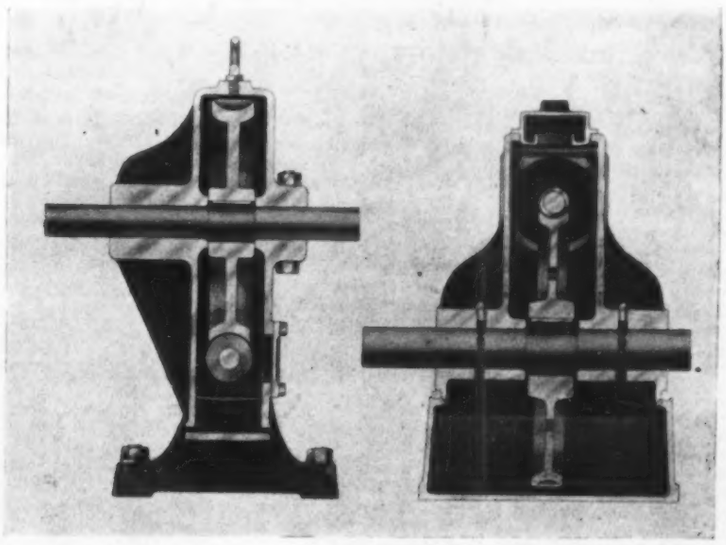


FIG. 36.—POSITION OF WORM AND WHEEL. SHOWING OIL BATH WITH WORM BELOW AND OIL BATH WITH WORM ABOVE.

Some difficulties have to be overcome in connection with speed variation of this type, but discussion of these is reserved for the section on Control Gear.

Possibly, to some of the older lift engineers, the gearless machine, *which is not self-sustaining*, may appear to be an invention not to be encouraged, but the author seems to recollect a time when similar arguments were advanced against free-wheel bicycles by elderly cyclists in the early days of that invention. Also, every motor car depends on the clutch and on the brakes to hold it on a steep hill, and yet the proportion of accidents due to failure of brakes and clutches under the circumstances mentioned is extremely small. In any case, as the type is extensively used in America, and as taller buildings for London are under discussion, it

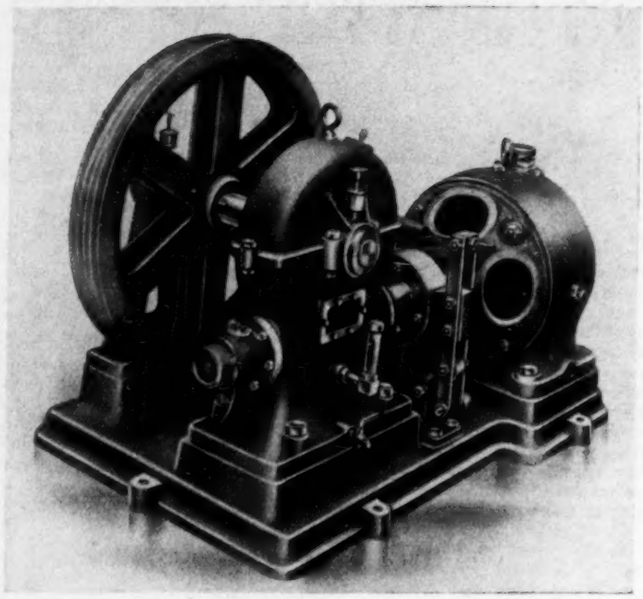


FIG. 37*a*.—WINDING ENGINE (WITH WORM BELOW WORM WHEEL).

was thought to be very desirable to include a description of it. Nelson S. Thompson, Chief Electrical and Mechanical Engineer in the Supervising Architect's Department of the U.S.A. Treasury Department, writing in "Mechanical Equipment of Federal Buildings," says: "The gearless traction type of machine, which is the latest and most satisfactory production of the elevator industry, is recommended for use in all cases where the speed loads vary between 1,600 and 3,500 lbs., and where the speed is to be 400 ft. per minute or over."

### Single Worm and Gear.

Due to the relatively high degree of efficiency obtainable, to the fact that its dependability has been completely proved, and to the important characteristic of safety, the single worm and gear is, and has been, almost since electric lifts were first built, the most popular method of transmitting power from the comparatively cheap, high-speed motor (600 to 1,000 r.p.m.) to the slow speed drum or vee sheave shaft (20 to 40 r.p.m.) (Fig. 37*b*).

Combined with the vee sheave or traction drive (half or full wrap) it is, in common with the tandem worm and gear (described later), the safest form of winding engine, for, although the worm and wheel unit permit motion to be transmitted from the motor to the rope, it is impossible, due to the design, for the rope to transmit motion to the motor—hence its name, "*Self-sustaining gear.*"

In the early forms the worms were made of Swedish wrought iron, by welding bands or rings around a piece of shafting at the point where the worm threads were to be formed, the threads afterwards being turned in a lathe, and the gear wheels, to mesh with these worms, were made of cast-iron with cast-iron teeth set at an angle across the face. Later developments produced cast steel worms with an improved angle of thread, bronze gear wheels, used with a forged steel worm, and also bronze worms with bronze gear wheels.

Modern gears consist of a high tensile steel worm forged solid with the shaft, the teeth of the worm being accurately cut out of the solid, on modern worm milling machines, case hardened on the threads, and afterwards ground to pitch and highly polished. The construction of the gear wheel (with which the worm meshes) is again a debatable subject, but commonly consists of a phosphor bronze rim shrunk the full width of the wheel on to an accurately machined cast-iron centre, and pinned with set screws. Alternatively some makers prefer a phosphor bronze rim, mounted (not shrunk) on and securely fastened to a cast-iron centre with fitted bolts; but one maker, at least, uses cast-iron both for the centre and for the teeth.

There is a very marked divergence of opinion regarding the relative position of the worm and the wheel, some makers preferring to place the worm above the wheel, and others, the majority it is thought, to place it below (Fig. 36). Briefly summarised, the advantages of placing the worm above the wheel are: Facility for inspection of the worm without draining off the oil; the location of all shafts above the oil level, thus reducing the risk of oil leakage (Fig. 37*b*). Conversely, the advantages of locating the worm below the wheel are: Perfect lubrication, since the teeth of the worm and wheel in contact are immersed under a good head of oil; facility for inspection of the gear wheel; mechanically good design, as the weight and hence the centre of gravity of the engine are low down; convenient disposal of the brake gear; and the outer bearing of the vee sheave is carried on the engine bed plate, thus securing perfect alignment at all times (Fig. 37*a*).

With either arrangement of the worm and wheel the lifting capacity obviously depends upon the resistance offered by the worm shaft bearings to the end thrust produced on the worm shaft immediately motion is attempted either by the worm or the wheel. In lift work the direction of the end thrust may be either way, and is taken care of by double thrust bearings of either the standard alternating steel and bronze ring type running in oil, or by means of specially designed ball bearings (Fig. 38).

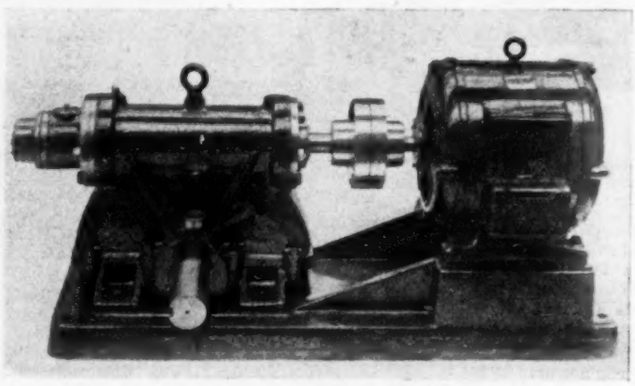
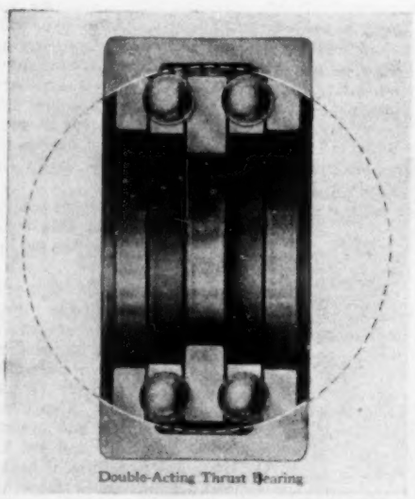


FIG. 37*b*.—WINDING ENGINE (WITH WORM ABOVE WORM WHEEL).



Double-Acting Thrust Bearing

FIG. 38.—DOUBLE ACTING BALL-BEARING END THRUST BLOCK FOR WORM SHAFT.

The important part played by these thrust bearings in the successful operation of modern electric lifts, equipped with the single worm and gear type of engine can be shown by the following simple example:—Assume a 30 in. drum lifting a 2,000 lb. load with a 24 in. diameter gear wheel. Under these circumstances the end thrust will be—

$$\frac{2{,}000 \times 30}{24} = 2{,}500 \text{ lbs.}$$

The casing for the worm and gear wheel, which is of cast iron, is usually of an extremely solid design and construction, as it almost invariably carries at least one, and occasionally two, of the bearings of the wheel shaft. The design most frequently adopted is to form it in halves, with accurately machined, oil tight, horizontal joints and fitted bolts, an inspection cap being provided in the upper half. The lower half forms the oil bath for the gear, and when the worm is located below the wheel, a stuffing box is provided for the worm shaft to prevent the escape of oil from the case.

Probably a dozen gear case sizes will enable

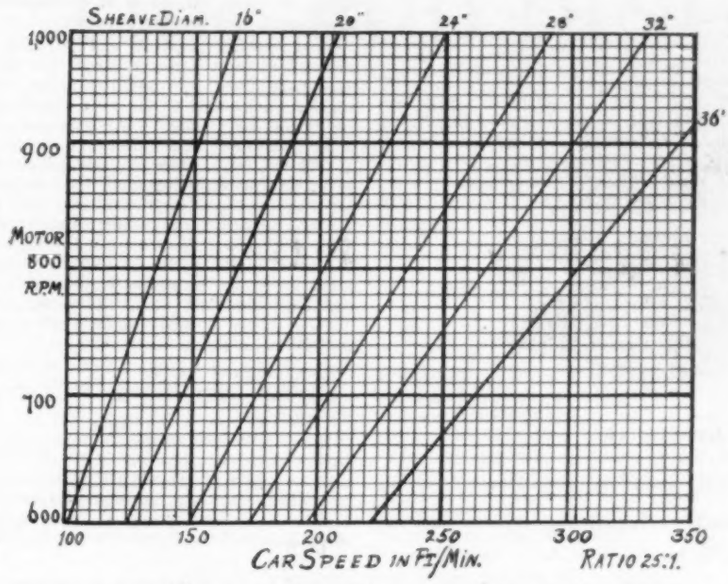



FIG. 39.—GRAPH CONNECTING MOTOR SPEED, DIAMETER OF DRIVING SHEAVE, AND CAR SPEED, FOR A GIVEN GEAR RATIO.

[*Example.*—If a car speed of 200 ft. per minute is required, and a 700 R.P.M. motor is to be used, note the point on the horizontal base line marked 200, and ascend vertically to the point of intersection with the horizontal line marked 700, which is the motor speed. The nearest diagonal line to this point is marked 28 ins. on the upper margin, which means that a sheave diameter of 28 ins. for a gear having a ratio of 25 to 1, will be required, the actual car speed being 205 ft. per minute.]

any lift manufacturer to meet, from stock, the conditions of load and speed ordinarily specified, but in order to utilise standard motor frames and speeds three or four gear ratios are necessary for each frame size, due to the restrictions on sheave diameter imposed by the ropes (Graph Fig. 39).

FIG. 40.—HERRINGBONE, OR DOUBLE HELICAL, GEAR.

In lift work, when safety is of prime importance, a high reversed efficiency of the gear is undesirable, *i.e.*, in order to lower the car it should be necessary to apply an additional force acting in the same sense as the load, to ensure that it shall be self sustaining, or, in other words, the car will not run down should the current to the motor fail, and the brakes, due to lack of adjustment, fail to act. The least frictional resistance necessary to ensure that the gear shall be self sustaining is when $W_f h_f = W_u h_u$, from which the well-known expression

$$E = \frac{W_u h_u}{2 W_u h_u} = \frac{1}{2}$$ is obtained, *i.e.*, in order that the car will not run back, the efficiency should not exceed 50 per cent., which fact accounts to a considerable extent for the small angle of thread used on the worm. For many years 10 to 12 deg. was considered good practice, but investigations and experience have proved that for lift service 15 to 20 deg. is more satisfactory.

The field of application of the single worm and gear is extremely wide, since it is regularly used for car speeds from 50 to 450 ft. per min., and up to 300 to 400 ft. per min. for speed loads from 1,600 to 4,500 lbs. it is regarded as a standard. A comparison of operation records for the single worm and gear engine with the gearless engine will usually indicate that the former shows to advantage on locals, *i.e.*, for cars stopping at very frequent intervals, although it has a lower full speed operating efficiency. Another valuable feature of this type is due to the fact that, within limits, the vee sheave can be made half the depth of the car, thus avoiding the use of idlers and increasing the cable life, when the engine can be located overhead. Gear wear, on engines supplied by a first-class maker, is infinitesimal provided lubrication is attended to and the right quality of oil (preferably high grade castor) is employed.

### Herringbone, or Double Helical, Gear.

To meet the demand for car speeds higher than could be successfully handled by the single worm and gear, at prices lower than could be quoted for gearless engines, the herringbone, or double helical, gear, which had been used for

Gear Case Removed, Showing Herringbone Gear.

FIG. 41.—HERRINGBONE GEAR LIFT ENGINE WITH CASE REMOVED.

motor speed reduction in connection with pumping plants, rolling mills, and turbine engines with extremely satisfactory results, was introduced for lift service some years ago (Fig. 40).

Briefly described, it consists of the usual cast iron bed plate, with gear case, drum or vee sheave bearings, and motor (500 r.p.m.) mounted upon it, but instead of the worm and gear a bronze spur gear and pinion are used to drive the drum or vee sheave shaft. The speed ratio between motor and vee shaft is about 5 or 7 to 1, and the teeth are generally cut at an angle of about 60 deg. with the side of the wheel, or 120 deg. between the reverse position of the tooth. This is adopted in order to counteract the lateral stress on the wheel—hence the name *herringbone* (Fig. 41).

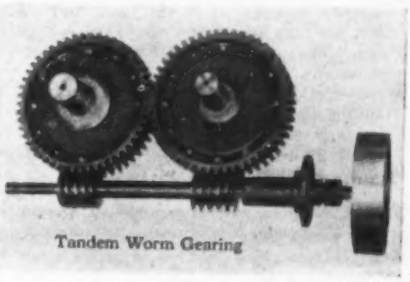
The chief advantages of the herringbone gear drive are—

(*a*) Smooth running qualities.
(*b*) Complete absence of vibration.
(*c*) Absorption of end thrust.
(*d*) Freedom from wear.
(*e*) Remarkably high efficiency.
(*f*) Utilises a medium speed and relatively cheap motor.

Due to the fact that the efficiency is high the herringbone, in common with all types of spur gearing, is liable to race when lowering a heavy load, or when raising an empty car. To meet this risk, a centrifugal governor may be fitted which is directly connected to the pinion shaft, and is arranged to apply a brake whenever the scheduled speed is exceeded.

### Tandem Worm and Gear.

Specifications for heavy duty (2,000 to 4,500 lbs.) moderate speed (175 to 400 feet per minute) lifts are not infrequently met by the offer of tandem worm geared engines in which intermeshing right and left hand gears are employed



Tandem Worm Gearing

FIG. 42.—TANDEM WORM GEARING.

in place of the single worm and gear previously described.

The manner in which the double-gears intermesh produces, moreover, a three-point contact, which permits the gear itself to compensate for any end thrust of the worm shaft and eliminates the necessity for end thrust bearings (Fig. 42).

The use of double gears has the advantage of dividing the load between two worms and gears, thus producing only one-half the strain on each, and securing durability combined with noiseless operation, free from vibration.

At present there is a tendency in America to replace the tandem worm and gear engine by the single worm and gear, roped two-to-one, but this is, of course, relatively hard on cables.

### Single Gear with External or Internal Back Gearing.

In buildings where heavy safes (6,000 lbs. or more) have occasionally to be handled, back gearing of the spur type may be provided on the engine between the gear and drum shafts, not ordinarily immersed in oil. By this means a relatively small machine may be utilised to lift a heavy load at a low speed, when the special service is of an intermittent character and first cost is of prime importance.

### Car Levelling Single Worm and Gear.

One of the latest developments in connection with lift engines is the car levelling gear, which entirely independently of the car attendant or the car loading, will invariably stop the car so that the floor is level with the landing within one quarter of an inch, high or low. This machine is particularly suitable for hospitals, nursing homes, warehouses, and station platforms in which heavy goods are handled on trucks, &c.

The result is attained in various ways, notably by shunt field control of d.c. motors, by applying

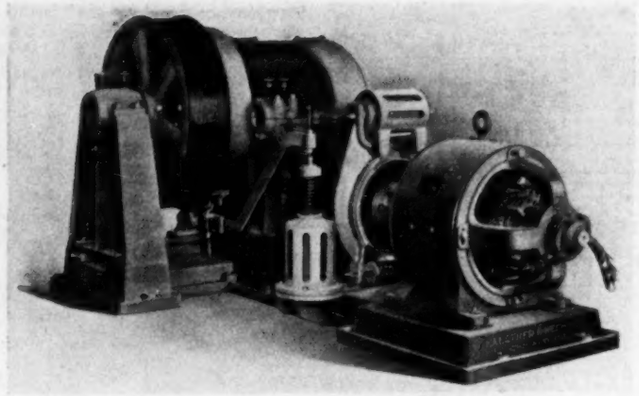


FIG. 43.—TANDEM WORM GEAR LIFT ENGINE.

a low frequency current to a regular a.c. lift motor or by the use of an additional small-geared machine, arranged to drive the regular hoisting motor and brake shoes at a low speed.

**Motors.**

In the application of electric motors to lift services it is first of all necessary to ascertain the power required to drive the engine. This obviously depends upon the nett load to be lifted, the car speed and the various friction losses. The power required to get the car in motion—*i.e.*, to overcome the static function—is considerably greater than that required to maintain the car in motion, it being necessary, in certain cases, to apply two and a-half times full load running torque* in order to commence hoisting the fully-loaded car.

In order to obtain the horse power rating of the motor which will be required to operate the car at full speed, the following formula may be used :—

$$B.H.P. = \frac{L \times S}{33{,}000 \times E} \quad \text{when}$$

L = The *nett* load to be lifted, allowing for over counter-weighting, which is usually 40 per cent. of the maximum rated car capacity.
S = Load speed of car in ft. per min.
E = Efficiency of gear (when used) and rope drive, which varies from 40 to about 75 per cent.

For example, the car floor has an area of 25 sq. ft. and the minimum load (on the 75 lbs. per sq. ft. basis) is 1,880 lbs. ; 40 per cent. of this load would be 752 lbs., leaving the nett load at 1,128 lbs. Assuming the car speed to be 200 ft. per min., and the efficiency 47.5 per cent., we get :—

$$B.H.P. = \frac{1{,}128 \times 200}{33{,}000 \times 0.475} = 14.4 \text{ B.H.P.} \quad \text{(graph Fig. 44).}$$

On direct current systems, where, within reason, the available starting torque is a function of the current inrush, the size of motor obtained by the above method can be depended upon to start the fully-loaded car from rest, but, with alternating and current motors, starting torque is a question of design, and so far this detail has not been standardised. Great care should, therefore, be exercised in drafting specifications and in conducting take over tests, to see that the starting torque is adequate to enable the fully-loaded car to start easily and smoothly from rest on the upward journey. Not infrequently 30 per cent. is added to the value of the motor horse power, obtained from the formula or from the curve in cases where alternating current motors must be used.

The desirable characteristics of motors to be used for lift work are as follows :—

(*a*) Quiet operation.
(*b*) Good starting torque.
(*c*) Low inertion of moving parts.

*Torque, or turning moment, is the product of a force acting on a periphery, and the radius or leverage at which it acts ; thus a force of 1 lb. exerted at a radius of 1 ft. represents a force of 1 lb.-ft.

(*d*) Good speed regulation under varying loads.

(*e*) Heating in continuous service should not be excessive.

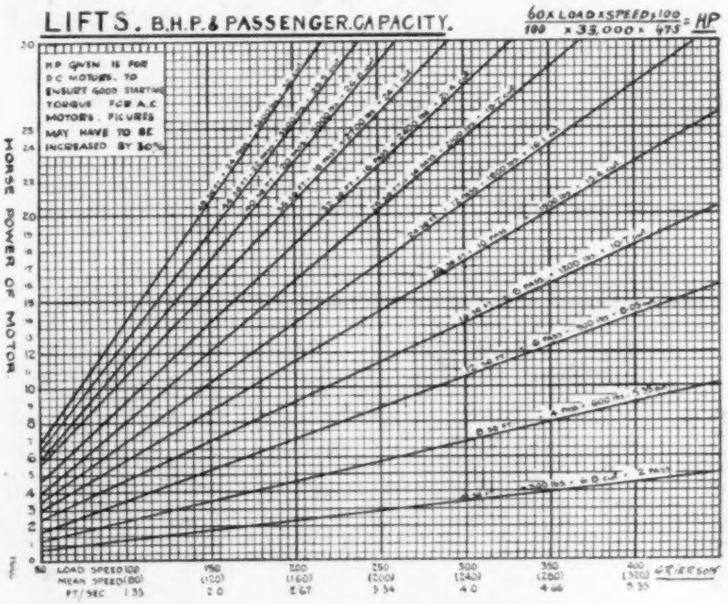

LIFTS. B.H.P. & PASSENGER CAPACITY.
60 x LOAD x SPEED / 100 / 100 x 33,000 x 475 = HP
H.P. GIVEN IS FOR D.C. MOTORS. TO ENSURE GOOD STARTING TORQUE FOR A.C. MOTORS. FIGURES MAY HAVE TO BE INCREASED BY 30%
HORSE POWER OF MOTOR
LOAD SPEED 100
MEAN SPEED (80)
FT/SEC 1.35
GRIFFSON

FIG. 44.—HORSE-POWER AND PASSENGER CAPACITY.

[*Example.*—Given a car floor area of 16 sq. ft. and a car speed of 200 ft. per minute ; required, the B.H.P. of the motor. On one of the diagonal lines it will be noted that 16 sq. ft. = 8 passengers, = 1,200 lbs., = 10.7 cwts. From the point in the horizontal base line mark 200 ft. ascend vertically to the point of intersection with the diagonal line marked 16 sq. ft. Horizontally to the left it will be seen that a 9¼ B.H.P. is required. Conversely, given a limiting B.H.P. of 10, and a car speed of 150 ft. per minute, the intersection of these two lines occurs on the diagonal line marked 24 sq. ft., = 12 passengers, = 1,800 lbs., = 16.1 cwt.]

(*f*) Be thoroughly reliable both electrically and mechanically and be designed specially for lift work.

Quiet operation is essential on the majority of passenger lifts, and frequently for goods service also ; and certain American manufacturers have gone the length of testing each motor in a sound-proof room before despatch to ensure satisfaction on this point.

The necessity for good starting torque has already been discussed.

Satisfactory lift service demands frequent starts and stops, and relatively rapid acceleration and retardation. Flywheel effect therefore must, from this point of view, be low, and this involves armatures or rotors of relatively light weight, small diameter, and correspondingly greater length, revolving at reasonable speed. For single worm and gear the popular speeds are from 1,000 r.p.m. for the one B.H.P. motors, down to 650 for the 20 B.H.P. size. On the other hand, if the flywheel effect is too low, the comfort of the car passengers may suffer, as rapid variations in acceleration and retardation then become possible.

Good speed regulation will be seen to be essential when it is remembered that the load may vary from full positive value to some negative value, due to the over-counter-balancing of the car. Thus in the previous example it was assumed that the over-balance would be 752 lbs., and, assuming one person only to be in the car at the ground floor, there would be a nett weight in the counter-balance of 612 lbs., tending to lift the car without assistance from the motor. Similarly, it is essential that the speed shall not vary materially from the rated speed in lifting a heavy load or the car safety gear may come into action.

Two classes of time rating are recognised for electric motors, *i.e.* :—

(*a*) Continuous rating.
(*b*) Short time rating (for intermittent working).

The continuous rating is the output which the machine will give for a period sufficiently long to attain practically constant temperature rise, which is usually considered to be six hours.

The short time rating is the output which a machine will give for one hour, one half-hour, or other specified period. No standard has been universally adopted for lift motors, some makers offering continuous rating, and others short time rating. This point should be noted in comparing competitive tenders for which a specification has not been issued.

[The author desires to express his indebtedness to the American Institution of Electrical Engineers ; to Messrs. Kaestner & Hecht for Figs. 34, 38, 42, and 43 ; to Messrs. Major, Smith & Stephens for Fig. 36 ; and to the Northern Manufacturing Co., Ltd., for Figs. 35, 37, 40, and 41.]

*(To be Continued.)*

**Proposed Public Hall at Wolverhampton.**

The question of the need for a public hall has been discussed by the Wolverhampton Town Council, and a Committee has been appointed to consider if the time is opportune for the provision of such a building. The Committee are to report to a later meeting of the Council.

# THE BUILDING TRADE.

## THE MAINTENANCE OF ROOFS.

A CORRESPONDENT writes:—Many architects have been employed on works of maintenance, sometimes on buildings designed by themselves some years before, where formerly a permanent clerk of works would have been employed, and the lessons learnt will undoubtedly be very useful for future experience.

Every modern building of any size is naturally equipped with climbing irons or iron ladders between various blocks to allow of the periodic cleansing of rainwater heads and gutters, but a tour of inspection generally proves that although, because of the facilities provided, this work on the whole has been well done by some old employee incapacitated by ill-health or other cause some vital spots have been consistently missed. This is mainly because the fact is not sufficiently realised that such work is generally given to a mentally or physically deficient man and that whereas an able-bodied man could and would readily clean the portion the type of man actually employed feels himself unable to do so without some additional protection or guardrail which could have been provided in the first instance without any appreciable expense. But probably the point most vividly brought home is the rapid decay of duck ladders, and the fact that these have so quickly changed from a safety device to one involving great risk of limb and from a protection to the roof covering to a condition in which they are actually doing it harm. The principal cause of danger to the roof cleaner is naturally the rotting of the steps owing to each forming a water ledge; this can be obviated by inserting diamond-shaped or circular galvanized washers, preferably ¼ in. thick, between the treads and the backboards, care being taken to creosote all sides of the treads and backboards before fixing the treads, including the screwholes in both. It is a mistake to make the backboards so thick that the ladder is unduly heavy, but it will often be found that if the slope is at all long the ladders strike the slates when in use, and it is therefore advisable to fix one or more cross-pieces under the backboard, 1 ft. 6 in. or 2 ft. long, to spread the weight over a larger area of the slating. Another fruitful source of decay results from the end grain of the backboard lying in the gutter at the foot of the slope; and it is an advantage to fix a similar cross bearer at the back of the board at this point, so that the end grain does not lie on the wet lead or asphalte. These cross pieces should be fixed with galvanized washers in the manner suggested for the treads, as it will be found that a considerable amount of moisture runs down the back of the ladder due to condensation owing to its near proximity to the roof slope, a frequent cause of rot in the backboard if, as is usual, cross bearers are not provided.

Considerably more thought should certainly be given to the means of roof cleansing and maintenance in the original construction than is usually given. Where, for instance, a duck ladder is likely to be permanently required in one position it can often be fixed so as to be entirely clear of the slating. Experience also proves that damage to the roofs themselves in the form of broken slates often results from a sometimes almost excusable carelessness on the part of the cleaner, a projecting chimney or return parapet reducing the passage so that inevitably he treads on the slating at one point to avoid the obstruction; often a change of height only and not an actual projection into the gutter will cause the trouble, or descending on the roof by means of climbing irons he will always tread off on one patch of the slating. This damage is a constant source of trouble and could usually have been avoided with a little scheming. The evil is magnified because, while the man will report defective slating elsewhere, through fear of blame he will not report what is often almost a bare patch. The above notes refer to what may be termed perpetual maintenance, but recent experience has led many architects to believe that some capital outlay with a view to reducing periodical maintenance is well worth their client's consideration. This involves rather a different set of problems from those discussed above.

## THE RENT ACT.

IN the House of Commons on the 24th ult. the Minister of Health, Sir A. Mond, announced the terms of reference to the Committee appointed to consider the Rent Act and the names of the persons who will form the Committee. The terms of reference are: "To consider the operation of the Increase of Rent and Mortgage Interest (Restrictions) Act, and to advise what steps should be taken to continue or amend that Act." The Minister, in reply to questions, stated that no representative of either landlords or tenants had been appointed to the Committee, but the Committee would hear evidence from those bodies. The point we have endeavoured to draw attention to in our columns is that the continuance of this war measure is not a mere question between landlord and tenant, but affects the whole community. There are a vast number of persons desiring to rent houses and to become tenants, but the Rent Restriction Act has led to houses only being offered for sale and no new tenants being accepted. If the Committee only considers the rival claims of landlords and the privileged class, the sitting tenant, it will only touch the fringe of this question. The landlord, where he has a house in possession, has been able to evade the evil influences of the Act by declining to let to new tenants; the sitting tenant very naturally clings to his privileged position under the Act, and has rarely suffered in the litigation it has involved.

But this is no family question between landlords and their existing tenants, but a question involving the members of the whole community. The time fixed for the termination of this war measure—June 24, 1923—in the Act is five years all but a few months after the signing of the Armistice. By that time what other war restrictions will be continued in force? Surely a very strong case must be made out to justify the continuance of this measure for any further period, and wider questions are involved than mere points between landlords and existing tenants.

There is a large demand for houses by persons who are not able to find houses to be let on lease and who cannot become landlords by purchase. These persons belong to no organisation, and they may be unrepresented before the Committee; their position, with no possibility of finding any fixed residence, renders them unable to make their case heard, as they are not even directly ratepayers, but are living in rooms or hotels or boarding-houses waiting until houses are again offered to be let on lease. The sitting tenants under the Act are even reaping a harvest by taking these homeless wanderers into their houses.

The demand for houses to be let on lease would have an important bearing on the provision of houses, and would stimulate the building trade were restrictions removed and landlords and tenants left free to bargain in an open market, and the removal of rent restriction would tend to stabilise the market for those desiring to buy house property. The price of house property has been inflated by the restriction on letting. We trust that these wider questions may be brought to the notice of the Committee, and that the inquiry will not be limited to small controversial issues between landlords and their existing tenants.

## LAW REPORTS.

### Leeds Ancient Light Action.

BEFORE Mr. Justice Romer, in the Chancery Division, recently, Mr. C. H. Slack, of 2, 3, and 4, Albion-square, Leeds, applied for an injunction to restrain the Leeds Industrial Co-operative Society, Ltd., of 10, Albion-street, Leeds, from erecting their new building in or near Albion-square so as to cause a nuisance to the plaintiff by illegally obstructing his ancient lights as they existed before the pulling down by the defendants of No. 15, Albion-square, or so as to interfere with the roadway of Albion-square and the free use by the plaintiffs of the right of way.

Mr. Hughes, K.C., for the plaintiff, said that the defendants had paid £300 into Court in full satisfaction of all claims by the plaintiff with a denial of liability. The action related chiefly to obstruction of ancient lights; but there were some subsidiary points such as air and right of way. The only light plaintiff had for his three premises was from the windows looking into Albion-square. A reasonable light was necessary for his business; but up to the present he had only had barely sufficient. The defendants had purchased a block of buildings between Albion-street and Albion-square, No. 15 Albion-square being the one which caused the trouble. The defendants had recently pulled it down and were rebuilding it to a height which was relatively a considerable height. They were also building over Albion-square to the north of the plaintiff's houses, leaving a tunnel 64 ft. long which seriously obstructed the roadway over which the plaintiff had a right of way.——Judgment was reserved.

### Rights of Apprentices.

An important action involving the rights and responsibilities of apprentices was heard by Mr. Justice Coleridge at the Glamorgan Assizes recently. The plaintiff was Mark Hennessey, a Cardiff youth, who claimed from the defendants, Messrs. John Williams & Sons, Ltd., of the East Moors Foundry, Cardiff, £187 damages for alleged breach of an apprenticeship agreement dated August 26, 1918, under which Hennessey, then fourteen years of age, was to serve under defendants for six years at wages rising from 10s. 6d. to 27s. 6d. per week.

Mr. St. John Francis-Williams said plaintiff worked until February 28, 1921, when he and two other youths refused to help in lifting a heavy box from the ground, alleging that it was too heavy. The foreman told him that if he could not help he would be dismissed, and he was dismissed. Plaintiff's parents claimed compensation, and in the correspondence which resulted it was suggested on behalf of defendants that the apprentice had been guilty of misconduct and had not regularly attended classes for technical instruction.

Sir Marley Samson said the defence was that the defendants were entitled to dismiss plaintiff by reason of perpetual misconduct.

The Judge found against defendants on this point, whereupon Sir Marley Samson contended that plaintiff himself repudiated the contract by absenting himself and not returning to work and that defendants accepted such repudiation.

Evidence was given by Hennessey, who, in cross-examination, denied that he was constantly being reproved for insubordination, slovenly and inefficient workmanship, and interfering with other apprentices. He admitted that he had asked for his indentures. He was allowed time off for the technical classes, but threw up the mechanics and heat classes.

Mr. Justice Coleridge said he had come to the conclusion that plaintiff's conduct was such as exhibited such a disinclination to learn as made it impossible for the employers to teach, and therefore plaintiff could not insist upon the claim that they had broken their engagement to teach him his trade. Judgment must be given for the defendants with costs.

# TRADE NEWS.

The Korkoid and Ruboleum Tile Co., 13–17, Summerfield street, Bridgeton, Glasgow, were responsible for the Ruboleum floors at the London County Hall.

The Walthamstow Council has accepted the tender of the Walker-Weston Company for the supply of 11,027 square yards of reinforcement for the relaying of concrete foundations on Woodford main road. The reinforcement is the Walker-Weston single-layer type, No. 124.

Messrs. Parker, Winder & Achurch, Ltd., hardware merchants, Birmingham, are opening offices and showrooms at 40, Craven-street, Strand, W.C. 2. A trained staff will demonstrate the manufactures of this Company, including Empire woven wire fencing, Empire chestnut paling, Coburn sliding door track, Excelsior screens, extension ladders, diaphragm pumps, Eagle combination grates, &c.

A film demonstration of the Grinnell Automatic Sprinkler and Fire Alarm, manufactured by Messrs. Mather & Platt, Ltd., 14, Gt. Smith street, S.W.1, was given in the Holborn Cinema recently. The sprinkler consists of lines of horizontal distributing pipes which are fixed at intervals of approximately 8 to 12 ft. along the ceiling of each room, and are connected with larger vertical rising pipes supplied from the public water main and elevated tank, or other approved sources of supply. To each of the lines of distributing pipes, the automatic sprinklers are attached. When a fire breaks out, the heat at once rises to the ceiling and the temperature is soon raised sufficiently to melt the solder; the elastic valve in the sprinkler is thus released, and the water is discharged profusely over the fire.

The second annual general meeting of the shareholders of Eastwoods, Ltd., was held recently at Winchester House, Old Broad-street, E.C., Dr. T. Cato Worsfold, M.A., J.P., M.P., the Chairman of the company, presiding. The chairman, in the course of his address, said that notwithstanding many difficulties experienced during the past year they succeeded in making 51,000,000 bricks and disposing of 54,000,000, as against their make of nearly 58,000,000, and the sale of nearly 67,000,000 during the previous year. There were indications now of revival in trade, due to their having secured the order for all the stock bricks required in connection with the Golders Green to Hendon railway, which amounted to about 10,000,000 bricks altogether. That was by far the largest order placed for stock bricks for many years.

### North-Eastern Sanitary Inspectors' Association.

The fortieth annual meeting of the North-Eastern Sanitary Inspectors' Association was held at Newcastle recently, the President (Sir Thomas Oliver) occupying the chair.

The report of the Council contained a reference to the dangers of metallic poisoning from kitchen boilers. The Council expressed the opinion that plumbers should be required to certify in writing that they had very carefully and scrupulously removed all grains and particles of metal, and that copies of certificates should be sent to the householder and to the health officer or city engineer. Another matter dealt with in respect to the health of the community was that of the inspection of earthenware drains. These expanded and contracted, the result being that leakages occurred at the jointings, and, if neglected, affected the sub-soil, and foul air was drawn into dwelling houses, causing fevers and other serious affections.

In moving the adoption of the report, the President said the association had rendered valuable service in the interests of public health. His remarks were supported by Mr. W. S. Vaughan and Mr. R. Clayton, and the report was adopted.

The Secretary (Mr. R. B. Duncan) was thanked for his efforts on behalf of the organisation.

# RATES OF WAGES IN THE BUILDING TRADE.

**The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—**

| | Masons | Bricklayers. | Carpenters, Joiners. | Plasterers | Slaters. | Plumbers. | Painters. | Masons' Labourers. | Bricklayers' Labourers. | Plasterers' Labourers. |
|---|---|---|---|---|---|---|---|---|---|---|
| Aberdare | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | |
| Accrington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Altrincham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Ashton-under-Lyne | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Barnsley | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Barrow-in-Furness | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Barry | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Bath | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | | | 1/0½ |
| Bedford | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Birkenhead | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | | | 1/5½ |
| Birmingham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | | | 1/3 |
| Bishop Auckland | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Blackburn | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Blackpool | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Bolton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Bournemouth | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Bradford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Bridgwater | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | | | 0/11½ |
| Brighton | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Bristol | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Burnley | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Burton-on-Trent | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Bury | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Cambridge | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Cardiff | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Chatham | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Chelmsford | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Cheltenham | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | | | 1/0¾ |
| Chester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Chesterfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Colchester | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Coventry | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Crewe | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Darlington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Derby | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Doncaster | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Dudley | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Durham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| E. Glam. (Mon. Vall.) | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Eastbourne | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Exeter | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Folkestone | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Gloucester | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/4 | | | 1/0¾ |
| Grantham | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Grays | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8½ | 1/7 | | | 1/3 |
| Grimsby | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Great Yarmouth | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Guildford | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Halifax | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Harrogate | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Hartlepools | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Hastings | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Hereford | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/4 | | | 1/0¾ |
| Huddersfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Hull | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Ipswich | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Lancaster | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Leamington Spa | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Leeds | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Leicester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Lichfield | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Lincoln | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Liverpool | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | | | 1/5½ |
| Llanelly | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| London | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8½ | 1/7 | | | 1/3 |
| Loughborough | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Luton | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Maidstone | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Manchester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Mansfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Merthyr Tydfil | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Middlesbrough | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Newcastle-on-Tyne | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Newport, Mon. | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Northampton | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Norwich | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Nottingham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Oakham | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | | | 1/0¾ |
| Oldham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/ |
| Oxford | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Plymouth | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/5 | | | 1/1½ |
| Pontypridd | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Portsmouth | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Preston | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/ |
| Reading | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Rochdale | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Rochester | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | | | 1/0 |
| Rugby | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| St. Albans | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| St. Helen's | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Scarborough | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Sheffield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Shrewsbury | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Southampton | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Southend-on-Sea | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Southport | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| South Shields | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Stockport | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Stockton-on-Tees | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Stoke-on-Trent | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/0 | | | 1/3 |
| Stroud | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4 | | | 1/0½ |
| Sunderland | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Swansea | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Swindon | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/4 | | | 1/0¾ |
| Taunton | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Torquay | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Tunbridge Wells | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Wakefield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Walsall | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| Warrington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| West Bromwich | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Wigan | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Windsor | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | | | 1/0½ |
| Wolverhampton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | | 1/3 |
| Worcester | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |
| York | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | | 1/2 |

(For rates of wages in the Building Trade in Scotland, see page 217.)

# CONTRACTS, COMPETITIONS, &c.

**For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.**

***The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.***

## BUILDING AND PAINTING.

AUGUST 14.—**Belfast.**—PICTURE HOUSE.—Erection of picture theatre at Castle-lane, for Classic Cinemas, Ltd. Mr. A. Ferguson, Surveyor, 2, Wellington-place Belfast. Deposit £5 5s.

AUGUST 14.—**Caerphilly.**—HOUSES.—Erection of 52 houses on the Trecenydd Site, Caerphilly, and 20 houses on the Llwyncelyn Site, Nelson, for the U.D.C. Mr. Sidney Williams, L.R.I.B.A., Wharton-street, Cardiff. Deposit £2 2s.

AUGUST 14.—**Campden.**—HOUSES.—Erection of cottages, for the R.D.C. Mr. W. L. Lissaman, Broadway, Campden.

AUGUST 14.—**Gloucester.**—COTTAGES.—Completion of one pair of stone cottages on the Campden (Station-road) Site Housing Scheme, for the R.D.C. Council's Architect, Mr. W. L. Lissaman, M.S.A., Broadway, Moreton-in-Marsh, Glos.

AUGUST 14.—**Hartismere.**—ALTERATIONS.—Alterations to be carried out to each of the 49 cottages erected in seven parishes, for the R.D.C. Mr. Harold Warnes, Clerk, Council Offices, Victoria-road, Rye, Suffolk.

AUGUST 14.—**Kirkcaldy.**—HOUSES.—Erection of 22 houses of three rooms at Glencraig Site, Lochore, for the Kirkcaldy District Committee. Messrs. William Williamson, F.R.I.B.A., and Geo. B. Deas, Kirkcaldy. Deposit £1 1s.

AUGUST 14.—**Nottingham.**—PAINTING.—Internal cleaning and painting of the various scattered Homes in the City, and relief station and dispensary at 36, Boden-street, for the Board of Guardians. Mr. J. Allan Battersby, Clerk, Poor Law Offices, Shakespeare-street, Nottingham.

AUGUST 14.—**Oakworth.**—PAINTING.—Outside painting of property belonging to the U.D.C. Mr. G. Blackbrough, Council Office, Oakworth.

AUGUST 14.—**Rosyth.**—SHOPS, &C.—Erection of 15 shops and eight houses over same, at Rosyth. Architect, Scottish National Housing Co., Ltd., 111, George-street, Edinburgh.

AUGUST 14.—**Scarborough.**—MEMORIAL.—Contruction of an obelisk, 75 ft. high, stone faced with brick core, on Oliver's Mount, for the War Memorial Committee. Mr. Harry W. Smith, Borough Engineer, Town Hall, Scarborough. Deposit £1 1s.

AUGUST 14.—**Sheffield.**—HOUSES.—Erection of 57 additional houses (4th instalment) on the Stubbin Estate, Firth Park, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

AUGUST 14.—**Troedyrhiwfuwch.**—BUILDING.—For erection of "Rising Sun" Inn, Troedyrhiwfuwch, near Tirphil, for Messrs. Crosswells, Cardiff Brewery, Ltd. Mr. James J. Jenkins, M.S.A., architect and surveyor, Porth, Rhondda. Deposit £2 2s.

AUGUST 14.—**Weymouth.**—FOOTBALL STAND.—Erection of stand at Recreation Ground, for the Weymouth Football Club. Mr. A. J. Bennett, Architect, Gloucester-street, Weymouth.

AUGUST 14.—**Whittlesea.**—PAINTING.—For painting at Workhouse, for the Board of Guardians. Mr. J. W. Bowker, Clerk, Whittlesea. Deposit £1 1s.

AUGUST 14.—**Yeovil.**—HOUSES.—Erection of 20 workmen's houses, for the T.C. Mr. H. C. G. Batten Town Clerk, Yeovil.

AUGUST 15.—**Bingley.**—SLATING.—Re-slating the roof of Heath Cottage at the Eldwick Sanatorium, near Bingley, for the West Riding C.C. Mr. Percy O. Platts, County Architect, Wakefield.

AUGUST 15.—**Manchester.**—PAINTING.—For painting at various branch libraries, for the T.C. City Architect, Town Hall, Manchester. Deposit 10s. 6d.

AUGUST 15.—**Nottingham.**—HOUSES.—Erection of 54 houses and bungalows on the Sherwood site, for the T.C. Mr. W. A. Kneller, Architect, 3, Victoria-street Nottingham. Deposit £2 2s.

AUGUST 15.—**Welsh Area.**—REPAIRS, &C.—War Dept. Contracts for repairs and materials. Artificers' works contracts from September 1, 1922, for following stations and division in R.E. district. Contract 1, Rhyl Hutments; 2, Wrexham; 3, Shrewsbury; 4, Brecon; 5, Newport (Mon); 6, Cardiff; 7, Barry; 8, Pembroke Dock. The Commanding Royal Engineer, R.E. Office, 3, Belmont, Shrewsbury.

AUGUST 16.—**Burton-on-Trent.**—SUB-STATION.—Erection of a sub-station in High-street, for the T.C. Mr. Thomas Hall, Borough Electrical Engineer, Guild-street, Burton-on-Trent.

AUGUST 16.—**Cardiff.**—HOUSES.—Erection of a limited number of houses at Ely, for the T.C. Mr. E. J. Elford, City Architect, City Hall, Cardiff. Deposit £2 2s.

AUGUST 16.—**Harrogate.**—CHAPEL.—Demolition of the former St. Mary's Church, Harrogate, and the erection of a chapel in the College grounds, mainly using the materials removed from St. Mary's Church. Mr. Hutchinson, Head Gardener, The College, Harrogate. Deposit £1 1s.

AUGUST 16.—**Manchester.**—ALTERATIONS.—For alterations and repairs at the Old Parsonage, Didsbury, for the T.C. City Architect, Town Hall, Manchester. Deposit 10s. 6d.

AUGUST 16.—**Urmston.**—CLASSROOMS.—Erection of semi-permanent building containing two classrooms at the Urmston Council School, Urmston, for the Lancashire E.C. County Architect, Mr. Henry Littler, 16, Ribblesdale-place, Preston.

AUGUST 16.—**Wallasey.**—SHELTERS.—Erection of two ornamental shelters for tramway passengers, for the T.C. Tramways General Manager, Seaview-road Wallasey.

*AUGUST 16.—**Woolwich and Kingston.**—ARTIFICERS' WORKS CONTRACTS.—Artificers' Works contracts at Stations and Divisions in the Woolwich Royal Engineer District. Separate tenders will be accepted for each contract. Contract 1, Woolwich 1st and 2nd Divisions. Contract 2, Kingston-on-Thames, under the stipulated conditions. Commanding Royal Engineer, Royal Engineer Office, New-road, Woolwich, S.E.18.

AUGUST 17.—**Corstorphine.**—HOUSE.—Erection of house at Drumhead Brae, Corstorphine. Mr. James Gentles, Surveyor, 184, High-street, Kirkcaldy.

AUGUST 17.—**Galashiels.**—HOUSES.—Erection of five blocks of two houses each, for the T.C. Mr. J. B. Lumsden, Town Clerk, Galashiels.

AUGUST 17.—**Grays.**—PAINTING.—Painting and redecorating work at the Children's Homes at Stifford, near Grays, Essex, for the Limehouse B.G. Mr. A. J. Smith, Clerk, Guardians' Offices, Barnes-street, Commercial-road East, E.14. Deposit £2 2s.

AUGUST 17.—**Holywell.**—ALTERATIONS.—Alterations and additions to the Vicarage, Holywell. Mr. Gronwy R. Griffith, architect, 2, Post Office-lane, Denbigh.

AUGUST 17.—**Leeds.**—OFFICES, &C.—Erection of offices and stores in Bridge-street, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

AUGUST 17.—**London, E.**—REPAIRS, PAINTING, AND ADDITIONS.—(*a*) For repairs and painting, &c., to certain wards, annexes, &c., at the Hospital at Bancroft-road, E.; (*b*) for alterations and additions to the case-paper department at their buildings at Bancroft-road, E., for the Guardians of the Poor of the Hamlet of Mile End Old Town. Mr. Edmund J. Harrison, architect, R.I.B.A., 23, Berkeley-road, Crouch End, N.8. Deposit £2.

AUGUST 18.—**Birkenhead.**—HOUSES.—Erection of 54 "A" type houses, for the T.C. Mr. T. T. Rees, Housing Architect to the Corporation, 64, Rodney-street, Liverpool. Deposit £2 2s.

AUGUST 18.—**Dover.**—HUT.—Erection of a cable hut at Dover, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

AUGUST 18.—**Kidwelly.**—Extension of Sardis Congregation Chapel, Trimsaran, Kidwelly. Messrs. George & Price, P.A.S.I., M.S.A., etc., Cross Hands.

AUGUST 18.—**Nottingham.**—BATHS.—Erection of cottage baths, Hawthorn-street, for the T.C. City Architect, Guildhall, Nottingham. Deposit £1.

AUGUST 19.—**Chesterfield.**—LODGE.—Erection of a lodge at the Walton Sanatorium, Chesterfield. Mr. G. C. Copestick, New County Offices, Derby. Deposit £1 1s.

AUGUST 19.—**Crewe.**—MEMORIAL.—For the erection complete of a suitable war memorial in the Market-square, the cost of the memorial is not to exceed £1,600, exclusive of foundations. Mr. L. St. G. Wilkinson, M.C., Municipal Buildings, Crewe.

AUGUST 19.—**Islington.**—REPAIRS, &C.—For repairs and painting, &c., to the operating theatre and to two other rooms at the Infirmary, Highgate-hill, N., for the Board of Guardians. Mr. Edmund J. Harrison, Lic.R.I.B.A., 23, Berkeley-road, Crouch End, N.8. Deposit £2.

*AUGUST 19.—**Manchester.**—WAREHOUSE.—Erection of a large warehouse on land in Trafford Park, for Messrs. Richard Johnson, Clapham & Morris, Ltd. Mr. Arthur Clayton, M.S.A., Duchy Chambers, Clarence-street, Manchester. Deposit £1 1s.

AUGUST 19.—**Wokingham.**—OFFICES.—Erection of two additional offices to the Board Room Buildings, for the Board of Guardians. Mr. P. H. Phipps, Clerk, Union Offices, Board Room, Barkham-road, Wokingham. Deposit £1 1s.

AUGUST 21.—**Dewsbury.**—FENCING.—Providing and fixing fences and gates on the Housing Sites, for the T.C. Mr. H. Dearden, Borough Surveyor, Town Hall, Dewsbury.

AUGUST 21.—**Greenock.**—HOUSES.—Erection of 52, or alternatively 36, tenement houses, for the T.C. Public Works Office, Municipal Buildings, Greenock. Deposit £1 1s.

AUGUST 21.—**Lanchester.**—OUTBUILDINGS, &C.—Providing 13 sets of sanitary outbuildings and coal-houses, yard fencing, and concreting and roadmaking drainage, &c., at Lanchester, near Durham. Mr. John T. Pegge, Surveyor, The Anchorage, Durham City. Charge 10s.

AUGUST 21.—**Shoeburyness.**—PAINTING.—Painting two gas holders and water tank, for the U.D.C. Mr. A. W. Goodchild, The Waterworks, Shoeburyness.

AUGUST 21.—**Stockport.**—DEMOLITION.—For the pulling down and sale of materials of the Old Grammar School, Stockport, to clear the site for the proposed war memorial. Messrs. Halliday, Paterson, and Agate, architects, 14, John Dalton-street, Manchester.

*AUGUST 23.—**Carnarvon.**—HOUSES.—Construction of six houses at Cae Hampton, Bethel-road, Carnarvon, according to Class B of the plans of the Ministry of Health, for the B.C. Mr. Robert O. Roberts, Town Clerk, 12, Market-street, Carnarvon.

*AUGUST 23.—**London.**—PAINTING, &C.—For internal painting and cleansing at (1) Patent Office, (2) Public Trustee Office, (3) General P.O. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s. each.

*AUGUST 24.—**Islington.**—REPAIRS AND PAINTING.—(*a*) Repairs and painting, &c., to the Medical Superintendent's residence at their Infirmary, Highgate Hill, N.; (*b*) for repairs and painting, &c., to the Male Infirm Ward Block at their Institution, St. John's-road, Upper Holloway, N., for the Guardians of the Poor of the Parish of St. Mary, Islington. Mr. Edmund J. Harrison, Architect to the Guardians, 23, Berkeley-road, Crouch End, N.8 Deposit £2.

AUGUST 24.—**Rosyth.**—SHOPS, &C.—Erection of 15 shops, with eight houses over same, at Rosyth, and 40 houses, also at Rosyth. Mr. A. H. Mottram, A.R.I.B.A., Scottish National Housing Co., Ltd. 111, George-street, Edinburgh.

AUGUST 25.—**Chelmsford.**—PAINTING, &C.—Cleaning and painting the interior of the scarlet fever block and military pavilion, for the Joint Hospital Board. Messrs. C. & W. H. Pertwee & Howard, London-road, Chelmsford.

# BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

| | Masons | Bricklayers. | Carpenters, Joiners. | Plasterers. | Slaters. | Plumbers. | Painters. | Masons' Bricklayers' Labourers | Plasterers |
|---|---|---|---|---|---|---|---|---|---|
| Aberdeen | 1/7 | 1/10½ | 1/7 | 1/7½ | 1/8 | 1/9 | 1/7 | 1/2 to 1/4 | |
| Airdrie | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/3 | |
| Alexandria | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/2 | |
| Arbroath | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/8 | 1/1 | |
| Ayr | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Bathgate | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/2 | |
| Blairgowrie | 1/7 | — | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | — | |
| Bo'ness | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/2 | |
| Coatbridge | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Dumbarton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Dumfries | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/8 | 1/8 | 1/2 | 1/2½ 1/3½ |
| Dundee | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Dunfermline | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/2 | |
| Duns | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/0 | |
| Edinburgh | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Falkirk | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Fort William | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | — | 1/1½ | |
| Galashiels | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | — | 1/1½ | |
| Glasgow | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3 | |
| Greenock | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/1 to 1/3 | |
| Hamilton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3½ | |
| Hawick | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3 | |
| Helensburgh | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Inverness | 1/6½ | — | 1/6 | 1/7 | 1/6½ | 1/7 | 1/8 | 1/0 to 1/3 | |
| Kilmarnock | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Kirkcaldy | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/2 | |
| Kirkwall | 1/5 | 1/5 | 1/4 | 1/7 | 1/5 | 1/5 | 1/4 | 1/2 | |
| Lanark | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3 | |
| Leith | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/2 | |
| Motherwell | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/3 | |
| Perth | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/7 | 1/2 | |
| Stirling | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Stirlingshire (Eastern District) | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/9 | 1/3 | |
| Wishaw | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/3 | |

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 216.

★AUGUST 25.—**Glossop.**— BUILDING.— For Post Office and Telephone Exchange at Glossop, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

★AUGUST 25.—**Liverpool.**—BUILDING.—Erection of a Telephone Exchange at Walton, Liverpool, for the Commissioners of His Majesty's Office of Works. Contracts Department, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

★AUGUST 25.—**London, N.W.**—HOT WATER HEATING.—Installation of hot water heating and domestic supply in a large block of flats now being erected in Maida Vale, London, for the Central London Building Co., of 24, Grove End-road, St. John's Wood, N.W.8. Mr. W. C. C. Hawtayne, Consulting Engineer, 9, Queen-street-place, London, E.C.4. Deposit £3 3s.

★AUGUST 25.—**Ludlow.**—SORTING OFFICE.—Erection of a sorting office, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

★AUGUST 25.—**Surrey.**—BUILDING.—Erection of Telephone Exchange at Addiscombe, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

★AUGUST 25.—**Wednesbury.**—ALTERATIONS.— For alterations, &c., at Wednesbury Post Office, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

AUGUST 26.—**Brighouse.**—HOUSES.—Erection of 12 Type "B" Houses at Smith House-lane, for the T.C. Mr. P. T. Grove, Town Clerk, Town Clerk's Office, Brighouse.

AUGUST 26.—**Bruton.**—HALL, &C.—Erection of a memorial hall, library, and classrooms for the Governors of the King's School, Bruton. Mr. A. J. Pictor, F.R.I.B.A., Bruton. Deposit £2 2s.

AUGUST 26.—**Celbridge.**—WALLS.—Repair of the boundary walls of the Burial Grounds at Esker, Lucan, Loughtown, Newcastle, and Saggart, for the R.D.C. Mr. F. Shortt, Clerk, Council Office, Celbridge.

★AUGUST 26.—**Winchester.**—SCHOOL.—Erection of new Council School at Romsey (with army hutting), for the Romsey County Council. Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

AUGUST 30.—**Mansfield.**—HOUSES.—Erection of 24 houses, Type A, on Bull Farm Site, for the T.C. Mr. Waude Thompson, A.M.Inst.C.E., Borough Engineer and Surveyor, Market-street, Mansfield.

★AUGUST 30.—**Preston.**—MATERIALS AND WORK BUILDING.—Supply of materials and work necessary in connection with the foundations, buildings, &c., for the Ribble Power Station, for the County Borough of Preston. Town Clerk, Town Hall, Preston. Deposit £2 2s.

AUGUST 30.—**Skipton.**—WALL.—Taking down and rebuilding a retaining wall at Hazelgill, near Oughtershaw, for the R.D.C. Mr. A. Rodwell, Surveyor, Skipton.

AUGUST 31.—**Mynyddislwyn.**—REPAIRS AND PAINTING.—For painting and repairing of council offices and caretaker's house at Pontllanfraith. Mr. A. E. John, Engineer and Surveyor, Council Offices, Pontllanfraith. Deposit £1 1s.

NO DATE.—**Hawksworth.**—BUNGALOW.—Erection of a bungalow at Hawksworth. Messrs. Spencer & Sharp, Architects, Old Bank Chambers, Great Horton.

NO DATE.—**Leeds.**—HOSPITAL.—Alterations and conversion of Stanley House, Leopold-street, Leeds, into Jewish Hospital. Messrs. Fred Mitchell & Sons, Architects, 9, Upper Fountaine-street, Leeds.

## FURNITURE, MATERIALS, etc.

AUGUST 14.—**Brynmawr.**—SUPPLIES.—For supply of cement, sand, and aggregate for concrete, bricks, salt, glazed ware pipes, concrete coping, stone coping (no ironwork required). Mr. W. J. Lomax, Engineer to Brynmawr Sewage Outfall Works, 11, Fold-street, Bolton. Deposit £5.

AUGUST 15.—**Dublin.**—TELEGRAPH POSTS.—Supply of Scots, Swedish, Norwegian, Finnish or Baltic red fir (Pinus Sylvestris) or larch (Laris Europa) telegraph poles, to be felled during the winter of 1922–1923, and delivered during the following summer, for the Postmaster General. Mr. M. Dalton, Controller of Stores, Post Office Stores Department, Aldborough House, Dublin.

AUGUST 16.—**Belfast.**—STORES.—Supply of stores to the Belfast and County Down Railway Co. Mr. H. E. Mellor, Secretary, Queen's Quay Terminus, Belfast.

AUGUST 21.—**Chelmsford.**—HOUSE.—Supply of 500 feet of 2½ in. canvas hose for Fire Brigade purposes, for the T.C. Mr. E. J. Miles, Chief Officer, 16, London-road, Chelmsford.

AUGUST 31.—**Durham.**—ROAD MATERIALS, &C.—Supply to the Durham County Council of road materials, tools, &c. Mr. Albert E. Brookes, County Surveyor, Shire Hall, Durham.

AUGUST 31. — **Stockton-on-Tees.** — MATERIALS. — Supply of stores to the District Fund, Gas, and Electricity Committees, Borough Engineer, the Gas Engineer, and the Electrical Engineer. Borough Hall, Stockton-on-Tees.

NO DATE.—**Pontyclun.**—MATERIALS.—For supply of fir fencing posts, five inches diam. by 6 ft. 6 in. long: 260 to be delivered to Llantwit (T.V.R.) Station, and 150 to Gilfach Goch (G.W.R.) Station. Mr. Thomas Saunders, Surveyor, Pontyclun, Glam.

## ENGINEERING, IRON AND STEEL.

AUGUST 14.—**Bristol.**—ELECTRIC CABLE.—Supply of 200 yards of underground electric cable to Snowdon House, Snowdon-road, Fishponds, for the Board of Guardians. Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

AUGUST 14.—**York.**—ENGINEERING MAINTENANCE WORKS.—Maintenance contracts from September 10, 1922, in the following Engineer Districts in the Command:—Halifax, Scarborough, Beverley, Paull-on-Humber. C. Russell-Brown, Lieut.-Colonel R.E., Commanding Royal Engineer, West Riding Area, Royal Engineer Office, 13, Wenlock-terrace, York.

AUGUST 15.—**Burntisland.**—ELECTRICAL INSTALLATION.—For electric lighting of Couper Church. Mr. John Gilchrist, Burntisland.

AUGUST 15.—**Canada.**—PUMP, &C.—Supply and installation of centrifug l sewage pump and motor at main sewage pumping station at Toronto, for the Commissioner of Works. Department of Overseas Trade, 35, Old Queen-street, S.W.

AUGUST 15.—**Poplar.**—LAUNDRY MACHINERY.—For supply of laundry machinery to the Managers of the Poplar and Stepney Sick Asylum District. Mr. Sydney G. Wright, Clerk, St. Andrew's Hospital, Devons-road, Bow, E.3.

AUGUST 15.—**Reading.**—HEATING INSTALLATION.—(*a*) The provision and installation of a low-pressure heating and domestic hot-water supply system at A, B, and Central Blocks, Battle Infirmary: (*b*) Construction of boiler house necessitated by works, for the Board of Guardians. Medical Superintendent, Battle Infirmary, Reading.

AUGUST 16.—**Cockfield.**—ELECTRIC LIGHT.—Installation of electric light at the Cockfield Workmen's Club and Institute. Secretary, The Club, Front-street, Cockfield, Co. Durham.

AUGUST 16.—**Rochdale.**—TELEPHONES.—For installing a system of automatic telephones at the Institution, Dearnley, of the Board of Guardians. Mr. R. A. Leach, Clerk, Union Offices, Townhead, Rochdale.

AUGUST 17.—**Atherton.**—FOUNDATIONS.—Construction of concrete foundations for a gasholder in a steel tank at the GasWorks, for the U.D.C. Mr. W. T. Duxbury, Gas Works, Atherton. Deposit £1 1s.

AUGUST 17.—**Matlock.**—SEWAGE PLANT.—Supply and erection of two gas engines (of about 25 b.h.p.), gas producing plant, electric generators and motors and pumping plant, &c., for the U.D.C. Messrs. James Diggle & Son, Civil Engineers, 14, Brown-street, Manchester. Deposit £5.

AUGUST 18.—**London.**—EXCAVATORS.—Supply to the High Commissioner for India of steam dragline excavators. Director-General, India Store Department, Branch No. 12, Belvedere-road, Lambeth, S.E.1.

AUGUST 19.—**Birkenhead.**—FLUES.—Supply and fixing of internal flues for a Lancashire boiler at the Union Institution, Derby-road, for the Board of Guardians. Mr. S. R. Carter, Clerk, Poor Law Offices, Conway-street, Birkenhead.

AUGUST 19.—**Middleton.**—PIPES.—Supply of (1) 1,000 yds. of 12 in. socket and spigot cast-iron gas pipes in 12 ft. lengths, and (2) 1,840 yds. of 6 in. socket and spigot cast-iron gas pipes in 12 ft. lengths, and (3) about 3 tons of specials. Gas Engineer, Gas Works, Towniley-street, Middleton.

AUGUST 21.—**Dover.**—RAILS.—Supply of 100 tons of British standard tramway rails. Mr. Wm. Boulton Smith, Borough Engineer, Maison Dieu House, Dover.

AUGUST 22.—**Bampton.**—RESERVOIRS.—Contruction of two covered concrete reservoirs, one with a capacity of 40,000 gals. and one of 60,000 gals.; engine house with oil engine and pump; and the laying of about 300 lineal yards of 3 in. main, etc., for the U.D.C. Mr. Henry Monson, Surveyor, Bampton, Devon.

AUGUST 22.—**Manchester.**—TRAMWAY PLANT.—Supply to the Tramways Committee of permanent way points, tongues, crossings, and hardened steel centres. Mr. H. Mattinson, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

AUGUST 23.—**London.**—STEEL WORK.—Supply to the Assam-Bengal Railway Co. of structural steel work, galvanised work, &c., for workshops. Offices of the Company, Bishopsgate House, 80, Bishopsgate, E.C.2. Charge £1 1s.

AUGUST 25.—**London.**—HEATING INSTALLATION.—The Central London Building Company, of 24, Grove End-road, St. John's Wood, N.W.8, invite tenders for a complete installation of hot-water heating and domestic supply in a large block of flats now being erected in Maida-vale, London. Mr. W. C. C. Hawtayne, consulting engineer, 9, Queen-street-place, London, E.C.4. Deposit £3 3s.

AUGUST 31.—**Grimsby.**—HEATING, &C.—New centralised heating and hot water supply plant, fuel economiser, water softening plant, and additions to cooking apparatus, at the Institution of the Board of Guardians. Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby.

## ROAD, SANITARY, AND WATER WORKS.

AUGUST 14.— **Hayes.** — SEWER. — Construction of about 400 yards of 9 in. sewer in the Uxbridge-road, for the U.D.C. Mr. D. C. Fidler, Surveyor, Council Offices, Hayes, Middlesex.

AUGUST 14.—**Letchworth.**—ROADS, ETC.—For making up roads, and construction of sewers, for the U.D.C. Mr. G. T. Hill, Surveyor, Council Offices, Letchworth. Deposit £2.

AUGUST 14.—**Southend.**—ROADS.—For making-up new boulevard, Prittlewell Chase (Eastwood-lane to Southbourne-grove), for the T.C. Mr. R. H. Dyer, Borough Engineer, Southend-on-Sea. Deposit £2 2s.

AUGUST 15.—**Abercarn.**—ROADS.—Making up roads for the U.D.C. Mr. J. Williams, Surveyor, Council Offices, Abercarn.

AUGUST 15.—**Leeds.**—ROADS.—Making up Crosby-street, and flagging and tar macadamising of Cardigan-lane improvement, for the T.C. Highways and Permanent Way Department, 1, Swinegate, Leeds.

AUGUST 15.—**Leeds.**—TRAMWAY TRACK.—(1) Reconstruction of tramway track in Cardigan-road; (2) paving, etc., works of highways in Hunslet-road, and Dewsbury-road, for the T.C. Highways and Permanent Way Engineer, 1, Swinegate, Leeds.

AUGUST 16.—**Bournemouth.**—ROADS.—For making up various roads, for the T.C. Mr. F. P. Dolamore, Borough Surveyor, Town Hall, Bournemouth. Deposit £1 1s.

AUGUST 16.—**Greenford.**—SEWERAGE WORKS.—For works of sewerage and drainage, for the U.D.C. The works generally will consist of (1) sewers and engine house, (2) outfall works, (3) machinery. Messrs. Howard Humphreys & Sons, 28, Victoria-street, Westminster, S.W.1. Deposit £3 3s.

AUGUST 16.—**Shelf.**—ROADS.—For work in connection with the cross roads widening, for the U.D.C. Mr. G. Reginald Oddy, Lic.R.I.B.A., Wood Lea, Shelf, Halifax.

AUGUST 17.—**Bere Ferrers.**—WATER SUPPLY.—Improvement of the water supply for the village of Bere Ferrers. Mr. T. Harris, Town Hall Chambers, Tavistock.

AUGUST 17.—**Thurnscoe.**—LAYING STEEL TUBES.—For the laying of about 2,200 lin. yards of 6 in. steel tubes and certain special fittings, for the U.D.C. Mr. Thos. Bull, Engineer, Council Offices, Thurnscoe.

AUGUST 18.—**Failsworth.**—SANITARY.—For (a) the plumbers' work and (b) the supply of sanitary fittings in connection with the conversion of 200 pail closets into water closets, for the U.D.C. Surveyor, Town Hall, Failsworth, near Manchester.

AUGUST 18. — **Middlesbrough.** — RECONDITIONING BLOCKS.—For the reconditioning of 90,000 hardwood paving blocks, for the T.C. Mr. S. E. Burgess, Borough Engineer, Municipal Buildings, Middlesbrough.

AUGUST 18.—**Southampton.**—ROADS.—Repair of roads at the Ordnance Survey Office, Southampton, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

AUGUST 19.—**Bridlington.**—PAVING.—Laying of about 1,300 sq. yds. of York flags, and 520 sq. yds. of non-slip flags. Borough Engineer, No. 1, The Crescent, Bridlington. Deposit £1 1s.

AUGUST 21.—**Darlaston.**—SEWERS, &C.—Construction of stoneware pipe sewers and sewerage work, for the U.D.C. Messrs. Dodd, Dodd & Watson, County Chambers, Corporation-street, Birmingham. Deposit £5.

AUGUST 22.—**Romford.**—SEWER.—Construction of 1,800 ft. of 3 ft. diameter sewer for sewerage works at Hornchurch, for the U.D.C. Mr. William Fairleigh, Parliament-mansions, Westminster, S.W.1. Deposit £5.

AUGUST 23.—**Hexham.**—WATER SUPPLY.—Providing and laying about 4,000 lineal yds. of 3 in. diameter cast iron pipes, etc., in connection with the Slaley Water Scheme, for the R.D.C. Mr. C. Franklin Murphy, Lloyds Bank Chambers, Morpeth. Deposit £2.

AUGUST 24.—**Hollingbourn.**—DRAINAGE.—For new cesspool drainage at Holm Mill, Harrietsham, for the R.D.C. Mr. F. Miskin, Clerk, 33, Earl-street, Maidstone.

AUGUST 25.—**Doncaster.**—SEWER.—Laying about 206 yds. of 9in. sewer, 164 yds. of 9 in. surface water drain, and 66 yds. of 6 in. surface water drain at New Edlington, for the R.D.C. Mr. W. R. Crabtree, Union Offices, Nether Hall, Doncaster.

AUGUST 25.—**Doncaster.**—WATER MAINS.—Laying about 300 yds. of 3 in. C.I. water mains at the New Village, Edlington. Mr. W. R. Crabtree, Surveyor, Union Offices, Nether Hall, Doncaster.

AUGUST 26.—**Newark.**—ROADS.—For tar-spraying about 17,000 super yds. of road, for the R.D.C. Surveyor, 27, Winchelsea-avenue, Newark.

## Competitions.

(*See Competition News, page 190.*)

## Auction Sales, Tenders, etc.

★AUGUST 15.—**London, S.E.**—Messrs. Veryard & Yates will sell, without reserve, at 126, Norwood-road, S.E. (near Tulse Hill, West Norwood, and Herne Hill Stations), large stock of useful timber and building materials. Auctioneers, 365, Norwood-road, S.E.27.

AUGUST 15.—**Norwich.**—Mr. S. Mealing Mills & Co. are instructed by A. E. Collins, Esq., M.Inst.C.E., City Engineer, to sell, without reserve, contractors' plant used in the erection of the "Dorlonco" houses, electric motors, light railway track, concrete moulding machine, and other building material and ironmongery.

AUGUST 16.—**Paddington.**—Messrs. Fuller, Horsey, Sons & Cassell will sell, at Messrs. Phillips, Mills & Co.'s Wharf, Amberley-road, Paddington, on account of disposal of property, surplus plant and materials, including two hydraulic presses, cutting machines, saw benches, and a quantity of machinery and effects. Auctioneers, 11, Billiter-square, E.C.3.

★AUGUST 16.—**Roehampton.**—Messrs. J. T. Skelding & Co. will sell by order of Messrs. Henry Woodham & Sons, Ltd., on completion of L.C.C. Housing Scheme, on site at top of Roehampton Housing Estate, Dover House-road, Upper Richmond-road, S.W., important unreserved sale of the road contractor's plant and machinery. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

★AUGUST 24.—**Hants.**—Mr. E. A. Scammell will sell by instructions from the Eastleigh and Bishopstoke U.D.C., with the approval and consent of the Ministry of Health, at the Junction Hotel, Eastleigh, the well-equipped steam brickworks, together with plant and machinery. There is a continuous kiln. Auctioneers, Eastleigh, Hants.

## Public Appointments.

SEPTEMBER 2.—**Staffordshire.**—Architect and Surveyor required by the Education Committee. Salary £800 (no Bonus). Mr. Graham Balfour, Director of Education, County Education Offices, Stafford. Endorsed "Architect."

SEPTEMBER 18.—**Leeds.**—Lecturers required to give instruction to advanced students on Monday or Wednesday evenings, commencing September 18. Subjects: Building Construction and Structural Work. Director of Education, Education Offices, Leeds.

# PRICES CURRENT OF MATERIALS.*

**[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]**

## BRICKS, &c.

| Per 1,000 Alongside, in River Thames up to London Bridge. | £ s. d. |
|---|---|
| Best Stocks | 4 2 0 |
| Second Hard Stocks | 3 17 0 |

Per 1000. Delivered at London Goods Stations.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| Flettons, at King's Cross | 3 1 0 | Best Blue Pressed Staffs. | 10 1 6 |
| Do. grooved for plaster | 3 3 0 | Do. Bullnose | 10 11 6 |
| Do. Bullnose | 3 16 0 | Blue Wire Cuts | 8 1 6 |
| Best Stourbridge Fire bricks:— | | | |
| 2½ in. | 11 3 0 | 3 in. | 13 2 0 |

GLAZED BRICKS—

| | | | |
|---|---|---|---|
| Best White, Ivory, and Salt Glazed Stretchers | 24 0 0 | D'ble Str'tch'rs | 32 10 0 |
| | | D'ble Headers | 29 10 0 |
| Headers | 23 10 0 | One Side and two Ends | 33 10 0 |
| Quoins, Bullnose and 4½in. Flats | 30 10 0 | Two Sides and one End | 34 10 0 |
| | | Splays and Squints | 32 0 0 |

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

| | s. d. | | |
|---|---|---|---|
| Thames Ballast | 13 6 | per yard, | delivered 2 miles radius Paddington. |
| Pit Sand | 16 0 | ,, ,, | |
| Thames Sand | 16 6 | ,, ,, | |
| Best Washed Sand | 16 6 | ,, ,, | |
| ½ in. Shingle for Ferro-Concrete | 14 0 | ,, ,, | |
| ¼ in. ,, ,, | 15 0 | ,, ,, | |
| ¼ in. Broken Brick | 10 6 | ,, ,, | |
| Pan Breeze | 5 6 | ,, ,, | |

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification Test £3 3 0 £3 8 6

56/- alongside at Vauxhall in 80-ton lots.

| | |
|---|---|
| Ferrocrete per ton extra on above | 10 0 |
| Roman Cement | 8 15 0 |
| Parian Cement | 5 17 0 |
| Keene's Cement, White | 5 17 0 |
| ,, ,, Pink | 5 12 0 |
| Plaster, Coarse, Pink | 3 10 0 |
| ,, ,, White | 3 17 6 |
| ,, Fine | 5 12 0 |
| Sirapite, Coarse | 3 16 0 |
| ,, Finish | 4 4 0 |
| Grey Stone Lime | 2 16 6 |
| Chalk Lime | 2 16 6 |
| Best Ground Blue Lias Lime | 2 18 6 |
| Hair | 17 0 0 |
| Granite Chippings | 1 12 0 |

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dpt.

## STONE.

| | s. d. |
|---|---|
| BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube | 3 1 |
| Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube | 3 4 |
| Do. do. delivered on road wagons at Nine Elms Depot | 3 5 |
| PORTLAND STONE— | |
| Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 7 |
| Do. do. delivered on road wagons at above stations, per ft. cube | 4 8 |
| White bedded, 3d. per ft. cube extra. | |
| NOTE.—½d. ft. cube extra for every foot over 20 ft. average, and ½d. beyond 30 ft. | |
| YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London. | s. d. |
| 6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super | 5 10½ |
| 6 in. rubbed two sides, ditto ,, | 6 4½ |
| 3 in. sawn two sides slabs (random sizes) ,, | 2 5½ |
| 2 in. to 2½ in. sawn one side slabs (random sizes) ,, | 1 6½ |
| 1½ in. to 2 in. ditto, ditto ,, | 1 4 |
| HARD YORK— Delivered at any Goods Station London. | |
| Scappled random blocks Per Ft. Cube | 6 0 |
| 6 in. sawn two sides landing to sizes (under 40ft. super.) Per Ft. Super | 5 4½ |
| 6 in. rubbed two sides ditto ,, | 6 0½ |
| 4 in. sawn two sides slabs (random sizes) ,, | 2 10 |
| 3 in. ditto, ditto ,, | 2 5½ |
| 2 in. self-faced random flags Per Yard Super | 8 4 |

## ARTIFICIAL STONE.

| Delivered in London Area in full van loads. | s. d. |
|---|---|
| Plain | 8 6 per ft. cube. |
| Moulded | 10 0 ,, ,, |
| Cills | 11 0 ,, ,, |

## WOOD.

GOOD BUILDING DEAL.

| Inches | per stan. | Inches | per stan. |
|---|---|---|---|
| 4 × 11 | £36 0 | 3 × 6 | £22 10 |
| 4 × 9 | 36 0 | 3 × 11 | 35 0 |
| 4 × 8 | 30 0 | 2 × 11 | 35 0 |
| 4 × 7 | 30 0 | 3 × 9 | 35 0 |
| 3 × 8 | 30 0 | 2½ × 9 | 30 0 |
| 3 × 7 | 25 0 | 3 × 4½ | 20 10 |
| 2½ × 7 | 22 10 | 3 × 4 | 20 10 |

PLANED BOARDS.

| | | | |
|---|---|---|---|
| 1 × 11 | 42 10 | 1 × 9 | 37 10 |

PLAIN EDGE FLOORING.

| Inches | per sq. | Inches | per sq. |
|---|---|---|---|
| ⅜ | 20/- | 1¼ | 32/6 |
| ½ | 22/6 | 1½ | 44/- |
| 1 | 25/- | | |

## WOOD (*Continued*).

| TONGUED AND GROOVED FLOORING | | MATCHINGS (BEST). | |
|---|---|---|---|
| Inches | per sq. | Inches | per sq. |
| 1 | 25/- | ⅜ | 17/6 |
| 1¼ | 32/6 | ½ | 22/6 |
| 1½ | 44/- | ¾ | 25/- |

| Inches | BATTENS. | s. d. |
|---|---|---|
| ¾ × 2 | | 3 0 per 100 ft. |

SAWN LATHS.

| | |
|---|---|
| Per bundle | 0 3 9 |

| | | | | |
|---|---|---|---|---|
| Dry Wainscot Oak, per ft. super, as inch | 0 2 8 | to | 0 3 0 | |
| ¼ in. do. do. | 0 1 10½ | to | 0 2 6 | |
| Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch | 0 2 3 | to | 0 3 0 | |
| Cuba Mahogany | 0 3 6 | to | 0 4 0 | |
| Teak (Rangoon, Moulmein or Java), per load | 52 10 0 | to | 55 0 0 | |
| American Whitewood planks, per ft. cube | 0 16 0 | to | 0 18 0 | |
| Best Scotch Glue, per cwt | 7 2 0 | to | — | |
| Liquid Glue, per cwt. | 4 16 0 | to | 6 0 0 | |

## SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| 24 by 12 | 46 10 0 | 18 by 10 | 26 5 0 |
| 22 by 12 | 42 5 0 | 18 by 9 | 23 2 6 |
| 22 by 11 | 39 0 0 | 16 by 10 | 22 0 0 |
| 20 by 12 | 37 2 6 | 16 by 8 | 17 2 6 |
| 20 by 10 | 31 15 0 | | |

## TILES.

| | Per 1,000 f.o.r. London. £ s. d. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district | 6 0 0 |
| Ditto hand-made ditto | 6 10 0 |
| Ornamental ditto | 6 15 0 |
| Hip and valley tiles (per dozen) { Hand made | 0 8 6 |
| Hip and valley tiles (per dozen) { Machine made | 0 8 0 |

## METALS.

| JOISTS, GIRDERS, &c., TO LONDON STATION PER TON— | £ s. d. |
|---|---|
| R. S. Joists, cut and fitted | 14 0 0 |
| Plain Compound Girders | 16 0 0 |
| ,, ,, Stanchions | 18 0 0 |
| In Roof Work | 21 0 0 |

WROUGHT IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

| | Tubes. (all sizes). | Fittings, Up to 2". | Fittings, Over 2". | Flanges, Up to 2". | Flanges, Over 2" |
|---|---|---|---|---|---|
| Gas | 55 % | 50 % | 55 % | 60 % | 65 % |
| Water | 50 % | 45 % | 50 % | 55 % | 60 % |
| Steam | 45 % | 40 % | 45 % | 50 % | 55 % |
| Galv'd— | | | | | |
| Gas | 45 % | 42½ % | 47½ % | 52½ % | 57½ % |
| Water | 37½ % | 37½ % | 42½ % | 47½ % | 52½ % |
| Steam | 27½ % | 32½ % | 37½ % | 42½ % | 47½ % |

L.C.C. COATED SOIL PIPES—London Prices ex works.

| | Pipe s. d. | Bends, stock angles. s. d. | Branches, stock angles. s. d. |
|---|---|---|---|
| 2 in. per yd. in 6fts plain | 3 2½ | 2 5 | 2 11 |
| 2½ in. ,, | 3 9½ | 2 8 | 3 8 |
| 3 in. ,, | 4 5½ | 2 11 | 4 4 |
| 3½ in. ,, | 4 10½ | 3 8 | 5 1 |
| 4 in. ,, | 5 5 | 4 1 | 5 10 |

RAIN-WATER PIPES, &c.

| | Pipe. s. d. | Bends, stock angles. s. d. | Branches, stock angles. s. d. |
|---|---|---|---|
| 2 in. per yd. in 6fts. plain | 2 1 | 1 7½ | 2 2½ |
| 2½ in. ,, ,, | 2 3½ | 1 10½ | 2 7½ |
| 3 in. ,, ,, | 2 9 | 2 4 | 3 6 |
| 3½ in. ,, ,, | 3 3 | 2 9½ | 4 1 |
| 4 in. ,, ,, | 3 8 | 3 4½ | 4 11½ |

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 5/3. .. 5 in., 6/9. .. 6 in., 8/-

| IRON— | Per ton in London. £ s. d. | £ s. d. |
|---|---|---|
| Common Bars | 13 0 0 to | 14 0 0 |
| Staffordshire Crown Bars — good merchant quality | 14 0 0 .. | 15 0 0 |
| Staffordshire "Marked Bars" | 16 0 0 .. | 17 0 0 |
| Mild Steel Bars | 12 0 0 .. | 13 0 0 |
| Steel Bars, Ferro-Concrete quality, basis price | 12 0 0 .. | 13 0 0 |
| Hoop Iron, basis price | 15 0 0 .. | 16 0 0 |
| ,, ,, Galvanised | 29 0 0 .. | 31 0 0 |
| Soft Steel Sheets, Black— Ordinary sizes to 20 g. | 14 0 0 .. | 15 0 0 |
| ,, ,, ,, 24 g. | 15 0 0 .. | 16 0 0 |
| ,, ,, ,, 26 g. | 16 10 0 .. | 18 10 0 |
| Sheets Flat Best Soft Steel, C.R. & C.A. quality— Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g. | 21 0 0 .. | 22 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g. | 22 0 0 .. | 23 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g. | 24 0 0 .. | 28 0 0 |
| Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9ft. 20 g. | 20 0 0 .. | 21 0 0 |
| Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g. | 20 10 0 .. | 21 10 0 |
| Ordinary sizes, 6ft. to 9ft. 26 g. | 22 10 0 .. | 23 10 0 |

## METALS (*Continued*).

| Sheets Galvanised Flat, Best quality— | Per ton in London. £ s. d. | £ s. d. |
|---|---|---|
| Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker | 24 0 0 .. | 25 0 0 |
| Best Soft Steel Sheets, 22 g. and 24 g. | 25 0 0 .. | 26 0 0 |
| Best Soft Steel Sheets, 26 g. | 26 10 0 .. | 27 10 0 |
| Cut Nails, 3in. to 6in. (under 3in. usual trade extras.) | 23 0 0 .. | 24 0 0 |

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

## LEAD, &c.

| | Delivered in London. £ s. d. | £ s. d. |
|---|---|---|
| LEAD—Sheet, English, 4 lb. and up | 36 0 0 | — |
| Pipe in coils | 36 10 0 .. | — |
| Soil Pipe | 39 0 0 .. | — |
| Compo pipe | 40 0 0 .. | — |

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

| | | | |
|---|---|---|---|
| Old lead, ex London area, at Mills per ton | 22 0 0 | .. | — |
| Do., ex country, carriage forward per ton | 23 0 0 | — | — |
| COPPER— Strong Sheet per lb. | 0 2 3 | — | — |
| Thin ,, ,, | 0 2 4 | .. | — |
| Copper nails ,, | 0 2 3 | .. | — |
| Copper wire ,, | 0 2 4 | — | — |
| TIN—English Ingots ,, | 0 1 9 | .. | — |
| SOLDER—Plumbers' ,, | 0 0 10 | .. | — |
| Tinmen's ,, | 0 1 0 | .. | — |
| Blowpipe ,, | 0 1 3 | .. | — |

## GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

| | Per Ft. | | Per Ft. |
|---|---|---|---|
| 15 oz. fourths | 3½d. | 32 oz. fourths | 8½d. |
| ,, thirds | 4½d. | ,, thirds | 10d. |
| 21 ,, fourths | 5½d. | Obscured Sheet, 15 oz. | 4½d. |
| ,, thirds | 6d. | 21 ,, | 7d. |
| 26 ,, fourths | 6½d. | Fluted and Enamelled 15 ,, | 8½d. |
| ,, thirds | 7½d. | Enamelled 21 ,, | 10½d. |

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

| | Per Ft. |
|---|---|
| ⅛ Rolled plate | 4½d. |
| ⅛ Rough rolled | 6d. |
| ¼ Rough rolled | 6½d. |
| Figured Rolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white | 6½d. |
| Ditto, tinted | 9½d. |
| Rolled Sheet | 6d. |
| White Rolled Cathedral | 5½d. |
| Tinted do. | 7½d. |

Cast Plate is same price as rough rolled.

## PAINTS, &c.

| | | £ s. d. |
|---|---|---|
| Raw Linseed Oil | in pipes per gallon | 0 4 5 |
| ,, ,, ,, | in barrels ,, | 0 4 7 |
| ,, ,, ,, | in drums ,, | 0 4 10 |
| Boiled ,, ,, | in barrels ,, | 0 4 9 |
| ,, ,, ,, | in drums ,, | 0 4 11 |
| Turpentine | in barrels ,, | 0 7 11 |
| ,, | in drums (10 gall.) ,, | 0 8 2 |
| Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.) | | 55 15 0 |
| GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots | per ton delivered | 77 10 0 |
| Red Lead, Dry (packages extra) | per ton | 38 0 0 |
| Best Linseed Oil Putty | per cwt. | 0 17 0 |
| Filocoi | per cwt. | 0 15 6 |
| Size. X D Quality | per firkin | 0 4 6 |

## VARNISHES, &c.

| | | Per gallon. £ s. d. |
|---|---|---|
| Oak Varnish | Outside | 0 14 6 |
| Fine ditto | ditto | 0 16 0 |
| Fine Copal | ditto | 0 18 0 |
| Pale Copal | ditto | 1 0 0 |
| Pale Copal Carriage | ditto | 1 4 0 |
| Best ditto | ditto | 1 12 0 |
| Floor Varnish | Inside | 0 18 0 |
| Fine Pale Paper | ditto | 0 18 0 |
| Fine Copal Cabinet | ditto | 1 2 6 |
| Fine Copal flatting | ditto | 1 0 6 |
| Hard drying Oak | ditto | 0 18 0 |
| Fine Hard drying Oak | ditto | 0 19 0 |
| Fine Copal Varnish | ditto | 1 0 0 |
| Pale ditto | ditto | 1 2 0 |
| Best ditto | ditto | 1 12 0 |
| Best Japan Gold Size | | 0 12 0 |
| Best Black Japan | | 0 14 0 |
| Oak and Mahogany Stain (water) | | 0 12 0 |
| Brunswick Black | | 0 9 0 |
| Berlin Black | | 0 14 0 |
| Knotting (patent) | | 1 5 0 |
| French and Brush Polish | | 1 2 6 |
| Liquid Dryers in Terebine | | 0 12 6 |
| Cuirass Black Enamel | | 0 7 0 |

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

# CURRENT PRICES FOR BUILDING WORK IN LONDON.*

## EXCAVATOR.

| | | s. | d. |
|---|---|---|---|
| Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep | per yard cube | 15 | 0 |
| Add if in clay | " " | 1 | 6 |
| Add for every additional depth of 6 ft. | " " | 0 | 9 |
| Planking and strutting to trenches | per foot super | 0 | 7 |
| Do. to sides of excavation, including shoring | " " | 1 | 2 |

## CONCRETOR.

| | | s. | d. |
|---|---|---|---|
| Portland cement concrete in foundation 1 to 6 | per yard cube | 40 | 0 |
| Add if in underpinning in short lengths | " " | 9 | 0 |
| Add if in floors 6 in. thick | " " | 3 | 9 |
| Add if in beams | " " | 4 | 6 |
| Add if aggregate 1 : 2 : 4 | " " | 11 | 0 |
| Add for hoisting not exceeding 10 ft. beyond the first 10 ft. | " " | 3 | 6 |

## BRICKLAYER.

| | | £ | s. | d. |
|---|---|---|---|---|
| Reduced brickwork in lime mortar and Fletton bricks | per rod | 34 | 0 | 0 |
| Add if in stocks | " | 8 | 10 | 0 |
| Add if in Staffordshire blues | " | 24 | 0 | 0 |
| Add if in Portland cement and sand | " | 3 | 0 | 0 |

FACINGS.

| | | | | |
|---|---|---|---|---|
| Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks | per ft. super | 0 | 0 | 1½ |

POINTING.

| | | | | |
|---|---|---|---|---|
| Neat flat strucks or weathered joint | " " | 0 | 0 | 3 |

ARCHES.

| | | | | |
|---|---|---|---|---|
| Extra only to the price of ordinary brickwork :— | | | | |
| Fair external in half brick rings | " " | 0 | 0 | 10 |
| Axed in stocks | " " | 0 | 1 | 9 |
| Rubbed and gauged jointed in putty camber or segmental | " " | 0 | 6 | 0 |

SUNDRIES.

| | | | | |
|---|---|---|---|---|
| Damp course in double course of slates breaking joint and bedded in Portland cement | " " | 0 | 1 | 3 |
| Setting ordinary register grates and stoves | each | 1 | 1 | 0 |
| Setting kitchener, including forming flues, &c., with all necessary fire bricks | " | 5 | 5 | 0 |

## ASPHALTER.

| | | s. | d. |
|---|---|---|---|
| Half-inch horizontal damp course | per yard sup. | 7 | 6 |
| Three-quarter-inch vertical damp course | " " | 11 | 0 |
| ½ inch on flats in two thicknesses | " " | 8 | 6 |
| Angle fillet | per foot run | 0 | 3 |
| Skirting and fillet 6 in. high | " " | 1 | 4 |

## MASON.

| | | s. | d. |
|---|---|---|---|
| York stone templates fixed | per foot cube | 16 | 3 |
| York stone sills fixed | " " | 28 | 6 |
| Bath stone and all labour fixed | " " | 12 | 0 |
| Portland stone fixed | " " | 21 | 6 |

## SLATER.

| | | s. | d. |
|---|---|---|---|
| Welsh 16 in. × 8 in. 3 in. lap, including nails | per square | 79 | 9 |
| Do. 20 in. × 10 in. Do. Do. | " | 90 | 9 |
| Do. 24 in. × 12 in. Do. Do. | " | 99 | 0 |

## CARPENTER AND JOINER.

| | | s. | d. |
|---|---|---|---|
| Fir framed in plates | per foot cube | 5 | 6 |
| Do. joists | " " | 6 | 0 |
| Do. roofs, floors and partitions | " " | 6 | 6 |
| Do. trusses | " " | 8 | 6 |

| | | ¾" | 1" | 1¼" | 2" |
|---|---|---|---|---|---|
| Deal rough close boarding | per sq. | 42/- | 48/- | 56/- | 85/- |

| | | s. | d. |
|---|---|---|---|
| Flat centering for concrete floor, including struts or hangers | " | 60 | 0 |
| Do. to beams | per ft. sup. | 1 | 6 |
| Centres for arches | " | 2 | 0 |
| Gutter boards and bearers | " | 1 | 1 |

FLOORING.

| | | ¾" | 1" | 1¼" | 1½" |
|---|---|---|---|---|---|
| Deal edges shot | per sq. | | 49/- | 58/- | 67/- |
| Do. tongued and grooved | " | | 54/- | 65/- | 72/- |
| Do. matchings | " | 45/- | 55/- | | |
| Moulded skirting, including backings and grounds | per ft. sup. | 1/8 | 2/1 | 2/3 | 2/9 |

SASHES AND FRAMES.

| | | s. | d. |
|---|---|---|---|
| One-and-a-half moulded sashes or casements | per foot super | 1 | 10 |
| Two Do. Do. Do. | " " | 2 | 3 |
| Add for fitting and fixing | " " | 0 | 6 |
| Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights : average size | " " | 4 | 0 |

DOORS.

| | | 1½" | 1¾" | 2" |
|---|---|---|---|---|
| Two-panel square framed | per ft. sup. | 2/4 | 2/7 | 2/9 |
| Four-panel Do. | " | 2/8 | 3/0 | 3/3 |
| Two-panel moulded both sides | " | 3/0 | 3/3 | 3/6 |
| Four-panel Do. Do. | " | 3/3 | 3/7 | 3/10 |

## CARPENTER AND JOINER—continued.

FRAMES.

| | | s. | d. |
|---|---|---|---|
| Deal wrot moulded and rebated | per foot cube | 14 | 0 |

| | | 1" | 1¼" | 1½" |
|---|---|---|---|---|
| Plain deal jamb linings framed | per ft. sup. | 1/9 | 1/10 | 2/1 |
| Deal shelves and bearers | " | 1/6 | 1/8 | 1/11 |
| Add if cross tongued | " | 21. | 24. | 21. |

STAIRCASES.

| | | 1" | 1¼" | 1½" | 2" | 2½" |
|---|---|---|---|---|---|---|
| Deal treads and risers in and including rough brackets | | 2/1 | 2/4 | 2/9 | — | — |
| Deal strings wrot on both sides and framed | | 1/8 | 2/- | 2/2 | 2/8 | — |

| | | s. | d. |
|---|---|---|---|
| Housings for steps and risers | each | 0 | 11 |
| Deal balusters, 1 in. × 1½ in. | per ft. run | 0 | 9 |
| Mahogany handrail ; average 3 in. × 3 in. | " " | 6 | 0 |
| Add if ramped | " " | 11 | 10 |
| Add if wreathed | " " | 23 | 9 |

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

| | | | |
|---|---|---|---|
| 6 in. barrel bolts | 8½d. | Rim locks | 2/4 |
| Sash fasteners | 11½d. | Mortice locks | 5/3 |
| Casement fasteners | 1/5 | Patent spring hinges and letting in to floor and making good | 19/- |
| Casement stays | 1/2 | | |
| Cupboard locks | 1/5 | | |

## FOUNDER AND SMITH.

| | | s. | d. |
|---|---|---|---|
| Rolled steel joists | per cwt. | 17 | 0 |
| Plain compound girders | " | 20 | 0 |
| Do. stanchions | " | 23 | 0 |
| In roof work | " | 28 | 0 |

## RAIN-WATER GOODS.

| | | 3" | 4" | 5" | 6" |
|---|---|---|---|---|---|
| Half-round plain rebated joints | ft. run | 1/11 | 2/4½ | 3/7 | 4/- |
| Ogee Do. Do. | " | 2/4½ | 3/1 | 3/10 | 4/9 |
| Rain-water pipes with ears | " | 2/9 | 3/7 | | |
| Extra for shoes and bends | each | 4/4 | 5/11 | | |
| Do. stopped ends | " | 1/11 | 2/4½ | 3/7 | 4/- |
| Do. nozzles for inlets | " | 2/2 | 2/7 | 3/10 | 4/3 |

## PLUMBER.

| | | s. | d. |
|---|---|---|---|
| Milled lead and laying in flashings and gutters | per cwt. | 56 | 0 |
| Do. Do. in flats | " | 52 | 0 |
| Extra labour and solder in coated cesspools | each | 7 | 4 |
| Welt joint | per ft. run. | 0 | 6 |
| Soldered seam | " " | 1 | 10 |
| Copper nailing | " " | 0 | 7 |

| | | ½" | ¾" | 1" | 1½" | 2" | 4" |
|---|---|---|---|---|---|---|---|
| Drawn lead waste | per ft. run | 10d | 1/6 | 1/9 | 3/1 | 3/10 | |
| Do. service | " | 1/5 | 1/11 | 2/3 | 3/6 | | |
| Do. soil | " | | | | | | 6/2 |
| Bends in lead pipe | each | | | | | 3/3 | 8/2 |
| Soldered stop ends | " | 1/2 | 1/8 | 2/1 | 2/10 | 3/6 | |
| Red lead joints | " | 11d. | 1/- | 1/3 | 1/11 | 2/4 | 4/10 |
| Wiped soldered joints | " | 2/10 | 3/6 | 4/- | 4/11 | 6/6 | 9/9 |
| Lead traps and cleaning screws | " | | | | 14/7 | 19/6 | |
| Bib cocks and joints | " | 6/4 | 9/7 | 15/4 | 41/- | | |
| Stop cocks and joints | " | 15/4 | 17/2 | 25/8 | 64/- | | |

## PLASTERER.

| | | s. | d. |
|---|---|---|---|
| Render, float and set in lime and hair | per yard sup. | 2 | 9 |
| Do. Do. Sirapite | " " | 2 | 11 |
| Do. Do. Keen's | " " | 4 | 0 |
| Add sawn lathing | " " | 1 | 7 |
| Add metal lathing | " " | 2 | 10 |
| Portland cement screed | " " | 2 | 1 |
| Do. plain face | " " | 3 | 9 |
| Mouldings in plaster | per 1 girth | 0 | 3 |
| One-and-a-half granolithic pavings | per yard sup. | 6 | 4 |

## GLAZIER.

| | | s. | d. |
|---|---|---|---|
| 21 oz. sheet plain | per foot sup. | 1 | 1 |
| 26 oz. Do. | " " | 1 | 4 |
| Obscured sheet | " " | 1 | 8 |
| ⅛ in. rolled plate | " " | 1 | 0 |
| ¼ in. rough rolled or cast plate | " " | 1 | 1 |
| ¼ in. wired cast plate | " " | 1 | 7 |

## PAINTER.

| | | s. | d. |
|---|---|---|---|
| Preparing and distempering, 2 coats | per yard sup. | 1 | 0 |
| Knotting and priming | " " | 0 | 8 |
| Plain painting 1 coat | " " | 0 | 11 |
| Do. 2 coats | " " | 1 | 7 |
| Do. 3 coats | " " | 2 | 4 |
| Do. 4 coats | " " | 3 | 0 |
| Graining | " " | 2 | 5 |
| Varnishing twice | " " | 1 | 11 |
| Sizing | " " | 0 | 4 |
| Flatting | " " | 0 | 8 |
| Enamel | " " | 1 | 3 |
| Wax polishing | per foot sup. | 0 | 9 |
| French polishing | " " | 1 | 3 |
| Preparing for and hanging paper | per piece | 2/- to 4/- | |

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 11 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

# PROPOSED NEW BUILDINGS & OTHER WORKS.*

**In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.**

AUDENSHAW.—Plan passed by U.D.C.:—Garage, Droylesden-road, for Messrs. B. & L. Talbot.

AUDLEY.—At the last meeting of the U.D.C. the Surveyor reported that Messrs. Maddock Bros. were contemplating the erection of about twelve houses at the Quarry, Barthomley-road, Talke, and it was resolved that if Messrs. Maddock would undertake to build at least twelve houses, the Council would provide a sewer and pay half the cost of laying the mains for the provision of a water supply.

BOLTON.—Plans passed by T.C.:—Mr. T. Roocroft, wooden motor garage, Easedale-road; Mr. T. Warburton, garage, 20, Albert-road; Mr. W. Orrell, store shed, Belmont-road; Mr. Henry Pilling, wooden garage, &c., Newnham-street; Messrs. Hill, Davison & Co., weaving shed, Florence-avenue; Mr. Fred Kay, petrol store, off Pole-street; Mr. James Haslam, street plan, Tomlin Fold; Exors. of T. Scowcroft, converting house into three, "Moorfield"; Messrs. J. Brown & Co., Ltd., extension, Starmount Print Works, Bradley Fold; Mr. B. Talbot, house, Junction-road; Mr. Joseph Roscoe, petrol tank, Wingates-lane; Mr. J. T. Greenhall, bay window, Wigan-road; Messrs. John Ainscow & Co., Ltd., store rooms, Bee-hive Mills, Lostock; Messrs. Young, Ltd., shed, back Bowness-road; Mr. W. Z. Seddon, 10 houses, Dijon-street; Messrs. Wadsworth & Sons, petrol tank, High-street; Mr. A. Greenhalgh, shed, 2, Westgate-avenue; Mr. R. D. Norris, garage, 9, Hampden-street; Messrs. A. Craig & Sons, extension to workshop, 105 and 107, Turton-street; Mr. T. Woods, veranda, 8t. George's-road; Bolton Pure Ice and Cold Storage Co., Ltd., basement, Thynne-street; Messrs. Walter Smith & Co., Ltd., alteration to shop, 134, Bradshawgate; Mr. Albert Horrocks, bay window, 47, Castle-street; Mr. J. T. Roberts, motor shed, back Nunnery-road; Mr. J. Kay, garage, back Eckersley-road; Mr. Herbert Parr, greenhouse, 55, Adelaide-street; Messrs. C. A. Nash & Co., garage, Blake-street; Mr. G. Decobecq, garage, Ryley-avenue; Mr. J. Hodkinson, petrol tank, 40, Bridgeman-street; Messrs. Potts, Hennings & Topping, alterations to church, Ulleswater-street; Mr. H. Higson, store, Princess-street; Mr. T. Beech, washhouse, 103, Bennett's-lane; Rev. W. Leighton, rebuilding Assembly Hall, 88. Peter and Paul's, Fletcher-street; Shell-Mex, Ltd., extension to premises, Bridgeman-street; Messrs. T. R. Bridson & Sons, new Grey Rooms, Chorley-street; Musgrave Spinning Co., new shed, Atlas Mill No. 1, Chorley Old-road.

BRECONSHIRE.—Important road and building schemes are being considered by the Breconshire County Main Roads Committee. At a conference of local authorities, held at Builth Wells, it was stated that £30,000 had been applied for, in order to lay out and improve roads in Breconshire by the Main Roads Committee. A member stated that the money which it was proposed to spend on the Builth Bridge work would not be available for employment as relief work as the greater part would have to be expended on materials. Skilled labour would be required on the road works at Hafrena. The County authority has also under consideration large improvement and alterations in the Builth-Llandrindod-road. £5,000, it was stated, would be spent on roads in the Builth area.

BRIDGEND.—The Council has before it a scheme for extension and additions to Council office premises.

CARNARVON.—The Ministry of Health has given the T.C. permission to erect 24 houses.

DENBY.—The C.C. has provisionally let the contract for entirely remaking the road from their boundary near Corwen to Cerrigydruidion.

ETON.—Plans passed by R.D.C.:—Lodge, Earley-wood School, Ascot, for Miss Sandwith; house, Sunningdale, for Mr. H. Parter Lowe.

GOWER (GLAM.).—The Gower R.D.C. is applying to the Ministry of Transport for a 50 per cent. grant towards the cost of extending the Llanmorlais-Waenhalog road across the peninsula and the carrying out forthwith of the Derwent road scheme. The Council asks for a definite understanding with regard to extension of the Gower Light Railway, and wish to proceed with the work.

GUILDFORD.—The R.D.C. has decided to apply to the Ministry of Health to the raising of a loan of £7,600 for the purpose of carrying out work as follows:—Wisley bridge and river cut, estimated cost £500; Hurtmore-lane, £1,450; Milford-lane, £830; Wolvern's Corner, Shere, £320; Purser's Hollow, Shere, £470; Binscombe Corner, £450; total, £4,020. The object is to find work for the unemployed during the winter.

HAVERFORDWEST.—The Town Council has decided to lay out a new cemetery in City-road and has also instructed the Surveyor to obtain fresh tenders for the supply of iron railings in respect to certain road works and fencing of danger spots.

HAVERFORDWEST.—The T.C. has decided upon improvements at Lexham-terrace and New-street, "Mill Inn."

LLANELLY.—The B.C. has decided to apply to Ministry of Health for sanction to undertake a new housing scheme.

LONDON (GREENWICH).—Drainage plans passed by B.C.:—Messrs. Hoare & Co., Ltd., Red Lion Brewery, 8t. Katherine's Way, E., at the "Bugle Horn" P.H., 6, The Village, Charlton; Mr. J. M. Jones, 93, Chancery-lane, for the Dartford Brewery Co., Ltd., at the "British Oak" P.H., Old Dover-road, Blackheath; Mr. John Oliver Cook, 1A, Eleanor-road, Woolwich, at the "Manor Arms" Beerhouse, North-street; Messrs. D. G. Somerville & Co., Ltd., Riverside, Charlton, at their premises, North-street.

LONDON (POPLAR).—Additions at the Poplar Hospital; motor-car shed, 6, Bath-street, for Mr. T. Scott; one story building, Albert-terrace, for Messrs. Andrews & Peescod.

LONDON (SOUTHWARK).—Drainage plans passed by B.C.:—London Newspapers Co., Ltd., to 54, Lant street; Improved Wood Pavement Co., Ltd., to 132 and 132A, Great Suffolk-street; Mr. S. Newman, to 10, Westmoreland-road; Welldons & Co., to 69–72, Hatfield-street.

MAESTEG.—The U.D.C., in condemning a number of houses at Caerau, owing to subsidence, have decided upon a scheme of providing temporary accommodation by the acquisition of wood huts.

MANCHESTER.—Plans passed by T.C.:—Bottling store, &c., off Oliver-street, Ashton Old-road, Openshaw; milk store, Green Fold-lane, Gorton; additions to wadding works, Turner-street, Clayton; drains to public washhouse, Hyde-road, West Gorton; conversion of house into shop and house, No. 90, Hyde-road, West Gorton; petrol store to garage, Store-street, Ancoats; store shed to works, Kelsall-street, and Thomas-street, West Gorton; vats at glue works, Bromley-street, Clayton; additions to garages on land adjoining Aden-street and Spire-street, Ardwick; drains at alterations to premises, 370–373, Ashton New-road, Bradford; alterations to Hanover Mill, Buxton-street, London-road; boiler house to works, Derby-street and Cheetwood-road, Cheetham; details of steel-work, &c., to premises No. 230, Queen's-road and Harrowby-street; transformer house, &c., Philips Park-road, Bradford; alterations to "Douglas Hotel," Corporation-street and Fennel-street; drains of Electricity Sub-Station, Greenwood-street and Seven Stars-court; drains at alterations, &c., to Home for Needy Jews, No. 208, Cheetham Hill-road, Cheetham; extension to offices to cotton mill, Pollard-street, Ancoats; additions to Ashenhurst Dye Works, Blackley New-road, Blackley; alterations to premises, 6–10, St. Anns-place and 14, St. Anns-alley; alterations to Deep Well Pump House, North-road, Newton Heath; "Mlp" Cinema, Hartley-street and Pym-street, Moston; warehouse, Portland-street, Charlotte-street and Velvet-street; four houses, Middleton-road, Heaton Park; drains and elevation of stores, Baker-street and Wood-street, West Gorton; roof to premises, Wilmslow-road and York-street, Didsbury; addition to house, No. 13, Fairfax-avenue, Didsbury; 34 dwelling-houses, Milwain-road, Levenshulme; drains, two houses, Grange-avenue, Levenshulme; alterations to workrooms, 63–65, Oxford-road, Chorlton-on-Medlock; drains and areas to cafe and offices, Oxford-road and Charles-street; lock-up shop, Cross-street, Didsbury; alterations to garage at rear of No. 147, Hamilton-road, Rusholme; three houses, Scarsdale-road, Rusholme; 34 houses, Milwain-road, Levenshulme; compressor engine house to works, Cambridge-street and Hulme-street, Chorlton-on-Medlock; garage adjoining 1, Wilbraham-road, Chorlton-cum-Hardy; additions to Blood House, abattoirs, Water-street; alterations and additions to Sunday school, Beech-road, Chorlton-cum-Hardy; extension to mills, Dyer-street, Hulme; shops, cafe, ballroom, &c., Barlow Moor-road, Chorlton-cum-Hardy; dwelling-house, Chandos-road South, Chorlton-cum-Hardy; additions to "Raventhorpe," Wilbraham-road, Fallowfield; alterations to the "Salisbury" Hotel, Wakefield-street, Oxford-street; continuation of Chandos-road South, Chorlton-cum-Hardy; flour stores to bakery, 197, Denmark-road, Moss Side; shop, workshop and garage, Great Western-street, Moss Side; extension to garage at house, No. 14, Albert-road, Whalley Range; additions to Mission Hall, Tatton-street and Brackley-street, Hulme; classroom adjoining No. 21, Manchester-road, Chorlton-cum-Hardy; garage at rear of No. 32, Demesne-road, Whalley Range; addition to brewery, Bland-street, Moss Side; alterations and additions to box works, Worsley-street, Hulme; drains to engineering works, Lees-street, Openshaw; shed, Albert-street, Bradford; loading way to works, North Western-street, Ardwick; alterations to works, Dark-lane, Ardwick; bridge across arcade, Meal-street; steelwork, &c., picture house, Oldham-road and Lamb-lane; steelwork, &c., to premises, 6–10, St. Ann's-place and St. Ann's-alley; refrigerator room on roof of premises, Market-street; bungalow, Moston-lane, Moston; Sunday school, Cleveland-road, Crumpsall; alterations to Lloydfield Mill, Masonic-street, Ancoats; additions to offices, Pollard-street and Carruthers-street, Ancoats; storage shed to gasworks, Bradford-road; additional entrance to balcony of Palatine Picture Theatre, Palatine-road, Withington; garage at rear of house, No. 19, Lindsay-avenue, Rusholme; two shops and houses, Birch Hall-road, Rusholme; canteen to works, Manor-road, Levenshulme; billiard hall, Slade-lane and Slade-grove, Rusholme; details of steelwork, &c., offices and cafe, Oxford-road and Charles-street; forge, stables and offices, Hewitt-street and Little Peter-street; roof to premises, Heald-place, Rusholme; dancing hall, Denmark-road, Gladstone-street, and Aberdeen-street, Chorlton-on-Medlock; workshop, Lower Moss-lane, Hulme; conversion of Welsh Chapel into offices, &c., Booth-street and Upper Medlock-street, Hulme; garage at rear of house, Wilbraham-road, Chorlton-cum-Hardy.

MERTHYR TYDFIL.—At a meeting of the Borough Council it was stated that the Council was desirous of building a new road from Old Castle Hotel to Brecon-road and had entered into negotiation with Welsh Church Commissioners on the matter of land. It was also stated that Messrs. Withers, the proprietors of Old Castle Hotel, intended demolishing two cottages in Castle-yard and building a theatre on the site. The Town Council has applied for £24,000 loan sanction for carrying out roadway improvements in the borough area.

MERTHYR TYDFIL.—The Public Works Committee of U.D.C. has decided upon a scheme of road laying and widening, of which the estimates are as follows:—Roadway laying at Troedyrhiw and Merthyr Vale, £10,600; Oaklands, Merthyr Vale-road, £3,560; road to Edwardsville, laying, £26,400; Nelson-road, £1,000; Treharris-road laying, £5,800; and road constructions at Quaker's-yard, £14,300.

MILFORD.—The Town Council has made application for sanction to a loan of £3,500 in respect to projected street improvements.

MYNYDDISLWYN.—Notice of motion was given at the U.D.C. monthly meeting of a scheme to provide bungalows at Ynysddu and Cwmfelinfach to relieve housing congestion.

NARBERTH.—It was reported to the Guardians, who decided upon renewing, that hot water tank, cylinder and boilers at Poor Law Institution were worn out. Work of building nature suggested by Ministry of Health Inspector to the R.D.C. was, in principle, approved of.

NEWCASTLE-ON-TYNE.—It is proposed to proceed with the work of repairing St. John's Church, at an estimate cost of £5,000.

NEWPORT (MON.).—The Newport T.C. is to be invited by the Cardiff Corporation to be represented at a conference, in which the Monmouthshire County Council is also to share, on a proposed "main road from Cardiff to Newport. In addition the Newport Council has itself an elaborate road scheme under consideration for the borough. The work to be put in hand is a roadway from Cardiff-road to the Newport Docks, via Mewdygrief; a roadway from a point near Pontywister to the Ebbw Bridge, Cardiff-road; the widening of Borrach-road and Borrach-lane, and the construction of a new road from Allt-yr-yn-road toward Queens Hill; a roadway from Borrach Hill to Bryngias-road, and construction of roads on the Tredegar Estate in connection with the development of the Dos district; the widening of Lawrence Hill and carrying through of this road to Christchurch-road opposite the cemetery extension; the widening of Caerleon-road near St. Julian's Inn to get rid of a dangerous bend, and the carrying through of Julian's-avenue to the Caerleon-road. Toward the cost of the scheme the Ministry of Transport, Treasury, and Ministry of Labour are being asked to contribute.

NORTHAMPTON.—Plans passed by T.C.: Garage, 20, Marriott-street, for Mr. G. Schanschief; temporary shed, 21, Horsemarket, for Messrs. Latimer & Crick; re-seating, Abington-street, for New Theatre Co.; new shop front, 324, Wellingborough-road, for Messrs. C. W. Moore & Sons; new shop, Birchfield-road, for Mr. F. H. Allen; two new houses, Balmoral-road; for Mr. H. Holloway; new building for malt-roasting plant, Weston-street, for Messrs. P. Phipps & Co., Ltd.; new dwelling house, Lime-avenue, for Mr. Archer Jones; new workshop, New Town-road, for Messrs. Smith & Jones; new store, 210, Abington-avenue, for Mr. R. Evans; addition to premises, Balmoral-road, for Mr. J. V. Rowntree; new motor garage, 259, Abington-avenue, for Messrs. A. P. Hawtin & Sons, Ltd.; new motor garage, Abington Park-crescent, for Messrs. A. P. Hawtin & Sons, Ltd.; alterations and additions to school rooms, Kettering-road, for trustees, Mount Pleasant Chapel; garage, "Othorpe," Wellingborough-road, for Mr. E. V. Gurney; additions to premises, 26, Hazelwood-road, for Miss S. Anderson; new streets, &c., on the Delapre-crescent Estate, London-road and Towcester-road, for Messrs. A. R. & W. Cleaver, Ltd.; new pair of cottages, Rothersthorpe-road, for Mr. H. Holton,; new house, Weedon-road, for Mr. J. T. Powell.

OGMORE AND GARW.—The Ffaldau Colliery Co. has agreed to erection by U.D.C. of a bridge at Ganeg, and the Council has decided to invite tenders immediately right of way legal formalities have been settled. The Council has decided to undertake the reduction of gradient of road from Oxford-street to Pontycymmer Cemetery at an estimated cost of £1,000. Plans and estimates for extension of Council offices and chamber have been called for.

OGMORE AND GARW.—The U.D.C. has instructed the Surveyor to prepare and submit estimates for a scheme to reduce the gradient of Cemetery Hill, which it is intended immediately to embark upon. Sanction has been received by the Council to a loan of £34,130 for housing purposes.

OXFORD.—Plans passed by T.C.: Mr. H. Capel, 279, Banbury-road, dwelling house on south side of Portland-road; Mr. H. Smalley Sarson, house and motor house, Banbury-road; Mr. W. C. Walker, Divinity-road, motor house, Hill Top-road; Mr. E. Bernard, 62, Hill Top-road, two houses, Hill Top-road; Mr. Harry McGrady Bell, addition to "Uplands," 260, Banbury-road; The Empire Meat Co., Ltd., Northampton, two projecting shop fronts, 138 & 140, Cowley-road; Mr. J. Sainsbury, Stanford-street, London, new stores, 5, High-street; Mr. H. G. Bell, "Rounday," Banbury-road, house, Woodstock-road; Mr. W. Rose, 13, Parker-street, alterations and additions to business premises, 33, Bullingdon-road.

PEMBROKE.—The U.D.C. has decided to ask for a conference with the Haverfordwest T.C. in respect to a joint water supply scheme from Preceily.

PENYBONT.—At a meeting of the Penybont Council it was decided to formulate a scheme to improve the ground adjoining Great Western Railway at Evanstown. It was also decided to ask the County Council to construct a new main road in the Aberkenig district from the railway bridge through Coronation-street, which would be widened at Penyfal. A scheme for the electric lighting of Newcastle Higher was reported on by the consultant engineer, and was deferred for consideration.

PENYBONT.—The U.D.C. has decided, immediately negotiations taking place with regard to additional houses have been completed, to apply for sanction of Ministry of Health to the erection of 100 houses at Heolycyw.

PONTARDAWE.—The U.D.C. has approved of plans for 12 new shops for Mr. H. Cook. The Council has also decided to acquire an additional 1¼ acres of land at Godregraig for the erection of houses.

PONTYPRIDD.—The U.D.C. has decided upon a road scheme involving large expenditure and eight different roads. In conjunction with the Caerphilly Council the proposed Aber-Pontypridd new road has at length been definitely decided upon by the Council. Negotiations are proceeding with the Llantrisant and Llantwit Fadre Councils and the Pontypridd authority on a projected joint highway laying scheme.

PONTYPRIDD.—The U.D.C. has opened negotiations for the purchase of the Old Tram-road, from the station square to Gelliwion Brook, and land adjoining the river embankment for road laying out and building purposes. The Council is also considering the acquisition of river bank land opposite the County Hotel for erecting a bridge from the Tram-road to Mill-street, a scheme which has been approved of. If offer of £2,000 for land is accepted the bridge building will be proceeded with.

PORTHCAWL.—A meeting of Calvinistic Methodists, on Sunday last, decided to acquire a site for the immediate erection of a new church at Porthcawl.

ROTHERHAM.—The Ministry of Health has held an enquiry into the application of the R.D.C. to borrow £8,300 for the erection of public offices.

ROTHERHAM.—Mr. W. H. Colton, a Ministry of Health Inspector, has held a public inquiry relative to the petition presented by the Corporation under the Housing of the Working Classes Act for an order confirming a scheme made by them for the improvement of an area in Masborough, containing 55 dwelling-houses, bounded on the north-west by Masborough-street, on the south by Main-street, on the north-east by the Rother Tavern, and on the south by the Great Central Railway.

SALFORD.—Plans passed by T.C.: Construction of drainage to dwelling-house, "Kersal Glen," Radford-street, Broughton; sanitary accommodation, Richmond Hill Works, Mount-street, Salford; lavatory accommodation, Messrs. G. W. Goodwin & Sons Works, Ordsall-lane, Salford; varnish room, Greengate and Irwell Rubber Co.'s Works, Greengate, Salford; sanitary accommodation, 317a, Broad-street, Pendleton; lavatory accommodation, Cromwell Picture House, Cromwell-road, Pendleton; dwelling-house, Woodfield-road, Pendleton; wall, Tramway Depot, Seaford-road, Pendleton; alterations to sanitary accommodation, "Glenluce," Waterpark-road, Broughton. Construction of: Petrol store, heating chamber and w.c., at garages in Knoll-street and Back Hilton-street, Broughton; garage, "Northfield," Bury Old-road, Broughton; store, on land in Croft-street and Crowther-street, Salford; cinema theatre, Halliwell-street and Stock-street, Salford; shops and public assembly room (revised plan), Gt. Cheetham-street and Hilton-street, Broughton. Alterations and additions to: "Sun Inn," Gt. Cheetham-street East, Broughton; St. Boniface's R. C. Schools, Frederick-road, Broughton. Alterations to: Dwelling-house, 100, Claremont-road, Pendleton; sanitary accommodation, Albert Hotel, Whit-lane, Salford; St. John's Cathedral Schools, Cleminson-street, Salford; business premises, 100, Chapel-street, Salford; shop and dwelling-house, 110, 112, Greengate, Salford. Conversion of: dwelling-house into shop, 7, Lord Napier-street, Salford. Calculations for: Steelwork of extension to factory, Lizzie-street, Springvale-road, Pendleton.

SCALBY.—Plans for two villas and three bungalows were passed at the last meeting of the U.D.C.

SOUTH SHIELDS.—Plans passed by T.C.: Mr. F. W. Newby, for Henderson Bros., estate plan showing lay-out of land on the east side of King George-road, north side of Prince Edward-road, and west side of West-avenue; Mr. F. W. Newby, for Messrs. Henderson Bros., fifty semi-detached houses, King George-road, and West-avenue, Harton, South Shields; Messrs. Clark and Moscrop, for the London Joint City and Midland Bank, extension of bank premises, corner Fowler-street and Denmark-street; Mr. Howard Hill, for Mr. R. Linklater, motor garage, back Village-terrace; Mr. Howard Hill, for Mr. C. J. Daniels, motor garage, adjoining bungalow, back Village-terrace; Mr. J. H. Morton, for Mr. John Readhead, residence, Grosvenor-road, Westoe; Mr. Howard Hill, for Messrs. Pearson & Forster, two semi-detached villas, St. Peter's-avenue, Harton; Mr. J. H. Morton, for Mr. J. F. Whitmore, shop front, South Frederick-street; Messrs. J. W. Hanson & Son, for Mr. J. Goldman, bungalow, Beach-road; Mr. Howard Hill, for Mr. R. M. Marr, villa residence, Sunderland-road, on the Harton Hall Estate; Mr. Howard Hill, for Mr. Thomas Holman, alterations to premises, 22, Rekendyke-lane, High Shields; Mr. Howard Hill, for Mr. J. E. Malaugh, alterations to premises, 135, Laygate-lane.

SPENBOROUGH.—Sir A. F. Firth has presented twenty acres of land to the U.D.C. for housing purposes.

TORQUAY.—Considerable building development is taking place in Torquay. By the sale of the well-known Ilsham Manor estate a new suburb in the most beautiful part of the town, close to the new Marine Drive, is likely to be created, and in the opposite direction the Torbay Hall estate is being built over.

TREORKY.—The Ocean Colliery Welfare Scheme Committee recently expended £3,000 on laying out playing centres at Treorky and Cwmparc. The Committee has now before it a scheme to be almost immediately commenced upon for expending an additional large sum on building and recreation ground improvements.

WALTHAMSTOW.—Plans passed by U.D.C.: One bungalow, Thorpe Hall-road, H. A. Hunt; two houses, Worcester-road, S. W. Bowden; warehouse, Aubrey-road, J. C. and T. S. Clark; garage, Exeter-road, West Bros. & Pettit; alterations to shop, 881, Lea Bridge-road, A. Crane.

WILLESDEN.—Plans passed by U.D.C. Additions to motor factory, Pound-lane, Willesden, by Mr. G. W. Atkinson, for Messrs. Studebaker, Ltd.: bottle store, &c., "White Hart" public house, Church-road, Willesden, by Messrs. F. J. Fisher & Son, for the Isleworth Brewery Co.; motor garage, No. 75, Gladstone Park Gardens, Cricklewood, by Mr. F. W. Brealy, for Mr. L. Braham: alterations to garage, No. 295, Willesden-lane, Willesden Green, by Mr. P. E. Stubbs, for Messrs. Small & Grey; alterations to garage, Christchurch Lodge, Christchurch-avenue, Brondesbury, by Messrs. F. Troy & Co., for Mr. James; six dwelling houses, Nos. 39, 39A, 41, 41A, 43, 43A, Gladstone Park Gardens, Cricklewood, for Mr. F. W. Brealy; new factory, Oaklands-road, Cricklewood, for Mr. A. McBain; roof signs, Studebaker factory, Pound-lane, Willesden, by Mr. G. W. Atkinson, for Messrs. Studebaker, Ltd.; transformer house, Exeter-road, Cricklewood, by Mr. A. W. Blake, for the Willesden District Council; conservatory addition, No. 3, Mapesbury-road, Cricklewood, by Mr. H. F. Wilkins, for Mr. S. E. H. Soskin; motor garage, No. 9, Craven Park, Harlesden, by and for Mr. W. Hanwell; dwelling house and garage, Oakcroft, No. 74, Chatsworth-road, Cricklewood, for Mr. C. W. B. Simmonds; alterations to dwelling house, 212, Walm-lane, Cricklewood, by Messrs. Willard & Co., for Mr. Mark Rosengarten; artists' studio, No. 5, Greenhill-road, Harlesden, by Mr. H. Shaw, for Mr. McLeod; motor garage, 116, Brondesbury-road, Kilburn, by and for Mr. Neate; parish room, St. Cecilia's Church, Acton-lane, Harlesden, for the Rev. C. F. Francis; wash-house, &c., 14, Nicol-road, Harlesden, for Mr. A. Leveridge; alterations to canteen, Cumberland-avenue, Willesden, for Park Royal Engineering Works, Ltd.

## FIRES.

ABERDEEN.—A fire has occurred in the North British Temperance Hotel, causing damage to the whole north wing of the building.

DEWSBURY.—A fire broke out last week in the engine-room at Messrs. J. and R. Millwood's, flock manufacturers, Hirstland Mill.

GLASGOW.—An outbreak of fire has occurred in a mantle warehouse at 10, Jamaica-street, occupied by Miss Parker.

## Presentations.

In recognition of their lengthy periods of service in the architect's department of the North-Eastern Railway Co., farewell presentations have been made by their former chief and their colleagues to Messrs. A. Burleigh, Smithson, and F. Henderson, all of whom have now retired. The gifts were distributed by Mr. Stephen Wilkinson, F.R.I.B.A.

## Commercial Information at Croydon.

The Croydon Chamber of Commerce co-operates with the public libraries in order that the latter may supply information of use to business men. To this end a committee has been formed of representatives of the various trades of the town which advises the Chief Librarian on the needs of these trades, and to which the Librarian may turn for the solution of many questions which are asked him. We learn from a brochure entitled "The Public Library and Business" that in the Croydon Reference Library is a very complete set of town and trade directories, year-books, time-tables, codes and maps, in addition to ordinary books on business; but the special feature of the work is the vertical file of clippings, articles, pamphlets, &c., on current business and public questions, which has been compiled and is maintained with the co-operation of the business committee.

## Employees' Sports Meeting.

The first annual meeting in connection with the Trocoll Sports Club (which has been organised by the employees of Messrs. Trollope & Colls) took place on Saturday last week at College-road, Dulwich. There was a large attendance, and the event was in every way a success.

The first prize winners were as follows:—100 yards flat race, Simpson; sack race (ladies), Mrs. Hurst; sack race (gents.), R. C. Duthie; 440 yards, W. Doust; open relay race, Messrs. Trollope and Colls; 108 yards hurdle, R. J. Clarke; inter-branch tug-of-war. Coleman-street; ½ mile run, Staines; high jump, R. J. Clark; ladies' bun-biting race, Miss Cross; boot race, R. Howe; long jump, R. J. Clark; egg and spoon race for mothers, Mrs. Dalton; throwing the cricket ball, E. Southgate; 100 yards veterans' race, Williams; inter-branch relay, Camberwell; blindfold race, Miss Polgreen and Mr. D. Wark; ½ mile walk, S. W. Howell; cigarette race, Miss Alexander and Mr. E. Chable; obstacle race, H. Watkins; mop combat, R. J. Clark and Bennywith; fighting over water tank, Bennywith.

The prizes were presented to the winners by Mrs. A. Colls, who was the recipient of a bouquet handed to her by Miss M. Hurst.

# TENDERS.

**Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.**

*Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

ATHERSTONE.—For works of water supply, for the U.D.C.:—

| | |
|---|---|
| *John Mowlem & Co., London—For laying the distributing mains from the borehole at Warton | £7,964 |
| *Glenfield & Kennedy, Kilmarnock—For the supply of valves and hydrants | 1,048 |
| *Geo. Kent & Co., Ltd.—For the supply of meters and fittings | 1,102 |

AUDENSHAW.—Supply of 120 tons of granite setts to the U.D.C.:—

| | |
|---|---|
| *Newry Granite Co. | £3 per ton |

BARROW.—For extensions to the Devonshire-road Hospital, for the T.C.:—

| | |
|---|---|
| *W. Gradwell & Co. | £5,654 |

BLACKPOOL.—For erection of concert hall on the pier, for the Blackpool Pier Co. Messrs. Maxwell & Tuke, architects, 25, Brazennose-street, Manchester:—

| | |
|---|---|
| *Edmund Taylor & Co., Ltd., Littleborough. | |

BRADFORD.—Erection of reading room and billiard hall at Sea Horse Reservoir Works, for the T.C.:—

| | |
|---|---|
| *F. T. Walker, Sheffield | £1,250 |

BRADFORD.—For tar-paving at Bowling-lane School, for the T.C.:—

| | |
|---|---|
| *M. Ingham & Co. | £390 |

BRADFORD.—Supply of two 20-ton weighbridges to the T.C.:—

| | |
|---|---|
| *S. Parsons & Co. | £375 each |

BRADFORD.—Supply and erection of three Mills Packard patent acid chambers, at Chemical Works, for the T.C.:—

| | |
|---|---|
| *Packard & James Fison, Ltd. | £1,489 |

BRADFORD.—For erection of two asbestos pavilions at tennis courts, for the T.C.:—

| | |
|---|---|
| *H. Dawson | £98 10 each |

BRADFORD.—For painting at various schools, for the T.C.:—

| | |
|---|---|
| *City Engineer—Feversham-street Infants' and School Baths | £157 0 0 |
| *J. Frankland—Frizinghall | 168 0 0 |
| *City Engineer—Lapage-street Boys' | 126 0 0 |
| *J. Frankland—Lilycroft | 229 10 0 |
| *J. C. Calvert—Lorne-street | 115 0 0 |
| *J. A. Southwart—Thornton | 72 0 0 |
| *J. A. Southwart—Thornton Grammar School | 29 0 0 |
| *E. Harland & Sons—Usher-street Myopes' | 48 13 6 |
| *E. Harland & Sons—Usher-street Boys' | 122 5 0 |
| *E. Harland & Sons—Usher-street Girls' and Infants' | 165 0 0 |
| *W. Farrer—Wellington-road | 100 0 0 |
| *City Engineer—Woodroyd | 181 0 0 |
| *T. Woodrow—Carr-lane Church | 108 0 0 |
| *C. V. Hartley & Son—Raw Nook Infants' | 41 10 0 |
| *C. V. Hartley & Son—St. Andrew's, Woodlands | 36 10 0 |
| *E. Hoyle—St. Jude's Church | 79 0 0 |
| *C. V. Hartley & Son—St. Stephen's Infants' | 40 0 0 |
| *Mosley & Senior—Tong-street Church | 65 10 0 |

BRISTOL.—For heating installation at Bristol Cathedral, for the Restoration Committee:—

| | |
|---|---|
| *G. N. Haden & Sons. | £2,194 |

CLIFTON.—For the various works required in the erection of "Clifton Moor House," Water-lane, Clifton, York, for Mr. Henry Farrow. Mr. Manton Wm. Lewis, architect, 59, Bootham, York:—

| | |
|---|---|
| Messrs. Parker & Sharp, York | £3,594 0 0 |
| T. Belt, Swinegate, York | 3,461 5 6 |
| William Birch & Sons, Ltd. | 3,455 0 0 |
| F. Shepherd & Son, York | 3,455 0 0 |
| William Tune, Osgodby, near Selby | 3,400 0 0 |
| Robert James Pulleyn, Eanswick, York | 3,340 12 0 |
| *Henry E. Turner & Son, York | 3,288 7 0 |
| C. Manton, Ltd., York (exclusive of joiner's work) | 2,611 4 5 |

EXETER.—For the erection of 20 houses on Buddle-lane Site, for the T.C. Mr. John Bennett, City Architect, Exeter:—

| | |
|---|---|
| *W. R. Brealy, Exeter | per house £450 |

FARNBOROUGH.—For widening brick arch bridge at Lynchford-road, for the U.D.C. Mr. J. E. Hargreaves, Engineer, Town Hall, Farnborough:—

| | |
|---|---|
| I. J. Harvey, Farnborough | £2,697 0 0 |
| Howard Farrow, N.W. | 1,958 0 0 |
| T. H. Jones, Farnborough | 1,795 0 0 |
| Geo. Kemp & Co., Aldershot | 1,769 0 0 |
| *Parker & French, W. | 1,687 3 4 |

HALIFAX.—For erection of stone-faced houses, for the T.C.:—

| | |
|---|---|
| *National Building Guild, Manchester, 32 at Wakefield-road | £12,078 |
| *Moore Bros., Rawtenstall, 20 at Booth Town, at | £437 5 each |

LONDON.—CHISWICK.—For painting, repairs, &c., to Council's Schools :—

| | No. 1. | No. 2. | No. 3. | No. 4. | No. 5. | No. 6. | No. 7. | No. 8. | No. 9. |
|---|---|---|---|---|---|---|---|---|---|
| Central Aircraft Co., Kilburn | — | — | — | — | £515 0 0 | £439 5 0 | £380 0 0 | £395 15 0 | £283 0 0 |
| *F. G. Cressy, Chiswick | — | — | — | — | — | 252 0 0 | — | — | — |
| *Dilliway & Elvy, West Kensington | £294 3 0 | £423 10 0 | £85 2 0 | £175 0 0 | 305 9 0 | 432 8 6 | 166 15 0 | 241 17 0 | 143 17 0 |
| R. Dixon & Sons, Fulham | — | — | — | — | 466 5 0 | — | — | — | — |
| Domart Decorators, Kensington | 244 0 0 | 519 0 0 | 80 0 0 | 212 0 0 | 439 0 0 | 421 0 0 | 330 0 0 | 211 0 0 | 317 0 0 |
| *C. Groom, Sons & Co., Ealing | 137 1 3 | 337 3 0 | 66 15 0 | 155 15 0 | 229 11 0 | 273 15 0 | 227 10 0 | 229 15 0 | 318 13 0 |
| Mayfair Services, Park-lane | — | — | — | — | 547 10 0 | — | — | — | — |
| *T. Millman, Ealing | 138 0 0 | 375 0 0 | 78 0 0 | 148 0 0 | — | — | 200 0 0 | 210 0 0 | 180 0 0 |
| National Building Guild, Russell-square | — | — | — | 265 0 0 | — | — | — | — | — |
| Pallant & Brown, Chiswick | 204 10 0 | 655 0 0 | 110 10 0 | 265 0 0 | 364 10 0 | 271 10 0 | — | — | — |
| Scott Fenn & Co., Woolwich | 450 0 0 | 585 0 0 | 155 0 0 | 596 0 0 | — | 487 0 0 | — | — | — |
| Welchman & Wise, Hyde Park | 97 0 0 | 452 15 0 | 70 15 0 | 155 5 0 | 257 5 0 | 264 10 0 | 242 5 0 | 163 10 0 | 164 10 0 |
| Myring & Son, Ealing | — | — | — | — | — | — | — | 664 0 0 | — |

LEEDS.—For painting of bridges, for the T.C. :—

*N. S. Long—South Accommodation-road bridge ..... £247 0 0
*H. Shann—Other bridges..... 110 17 6

LEEDS.—For pointing of stonework at the Municipal Buildings, for the T.C. :—

*Waring & Tomlinson..... £258 1 6

LEEDS.—For French polishing in the Council Chamber, for the T.C. :—

*S. Walker ..... £117 10 6

LONDON.—For laying creosoted deal paving in Brookmill-road, for the Deptford B.C. :—

*Improved Wood Pavement Co..... £4,060

LONDON.—For repairs and decorations to the church and chapel and garden seats at Lambeth Cemetery, for the Lambeth B.C. :—

| | |
|---|---|
| T. Pearce, Balham ..... | £1,500 0 0 |
| E. Green, Wandsworth..... | 646 10 0 |
| Fields, Highgate..... | 624 0 0 |
| Henry John Penfold, Kensington | 605 18 6 |
| Walter Lilley & Co., W.1..... | 537 0 0 |
| Domart, Kensington..... | 513 10 0 |
| Joseph Darch, Ltd., E.C.4.... | 506 15 0 |
| Edwin Dawe, Lavender Hill.. | 485 17 6 |
| Price & Price, Wimbledon.... | 448 0 0 |
| The Modern Decorators, Harlesden ..... | 445 0 0 |
| Harry Freeman, Ltd., Sutton.. | 426 0 11 |
| S. T. Wright, Kennington.... | 426 0 0 |
| T. E. Joyce, Tooting..... | 371 0 0 |
| William Giles, Paddington.... | 359 13 0 |
| A. E. Hatton, Kilburn..... | 358 18 6 |
| Bradshaw & Bradshaw, South Lambeth ..... | 344 14 8 |
| R. J. Senecal..... | 339 0 0 |
| H. Meekhonish, W. ..... | 324 15 0 |
| George Penny & Co., Harlesden | 283 15 0 |
| *G. H. Miller & Co., Forest Gate | 230 10 8 |

LONDON.—For paving part of Albany-street, for the St. Pancras B.C. :—

*Val de Travers Asphalte Co... 13s. 6d. per yard super, and free maintenance for two years; and 1s. per yard super for maintenance for further eight years.

LONDON.—For conversion of Grafton-road Chapel into an electricity sub-station, for the St. Pancras B.C. :—

| | |
|---|---|
| F. Pike, Romford-road ..... | £5,774 0 0 |
| E. C. & J. Keay, Ltd., Birmingham ..... | 5,332 0 0 |
| Willesden Building & Construction Co., Ltd., Acton..... | 5,105 0 0 |
| A. E. Farr, Gt. St. Helen's.... | 4,851 17 1 |
| Chessums, Ltd., Tottenham.... | 4,790 0 0 |
| Dilliway & Elvy, W.14..... | 4,795 0 0 |
| F. & H. F. Higgs, Ltd., Herne Hill ..... | 4,630 0 0 |
| Geo. Slade & Co., Ltd., N.1.... | 4,500 0 0 |
| D. G. Somerville & Co., Ltd., Westminster ..... | 4,423 0 0 |
| William Downs, Ltd., S.E..... | 4,300 0 0 |
| L. & W. Whitehead, Ltd., S.W. | 4,275 0 0 |
| R. Merton Hughes, W.6..... | 4,271 0 0 |
| *National Building Guild, Ltd., Paddington ..... | 4,221 0 0 |
| Albert Monk, Edmonton..... | 4,150 0 0 |
| W. Walkerdine, Ltd., Kensington ..... | 4,149 0 0 |

LONDON.—For supply of drain pipes to the Bethnal Green B.C. :—

| Name of Firm. | Increase in Schedule List Price. |
|---|---|
| *Broad & Co., Ltd..... | Full truck loads—less 17½ per cent. and plus 5 per cent. for cartage. Otherwise—plus 12½ per cent. |
| John Knowles & Co. (London), Ltd. | Plus 12½ per cent. |
| John H. Turner & Lisney, Ltd. | Plus 12½ per cent.(Station—less 17½ per cent.) |
| Doulton & Co., Ltd. .... | Plus 12½ per cent. |
| Monk & Sharpless ..... | Do. |
| Thos. Wragg & Sons, Ltd. | Plus 12½ per cent.(Station—less 17½ per cent.) |
| G. Jennings ..... | Plus 12½ per cent. |
| J. Oakes & Co..... | Station—less 17½ per cent. |
| John Byford & Son, Ltd... | Plus 12½ per cent.(Station—less 17½ per cent.) |
| George Jennings, Ltd..... | Plus 12½ per cent. |
| Erith & Co., Ltd..... | Do. |
| W. S. Bartlett..... | Do. |
| Young & Son, Ltd..... | Full truck loads—less 17½ per cent. and plus 3s. 6d. per ton for cartage. Otherwise—plus 12½ per cent. |
| E. R. Burtt & Sons, Ltd... | Plus 12½ per cent. |
| James Woodward, Ltd... | Plus 12½ per cent. in not less than 2-ton truck loads |
| Stoneware, Ltd. ..... | Plus 2½ per cent. |

LONDON.—For erection of 10 houses (twenty dwellings) on Diss-street site, for the Bethnal Green B.C. :—

| | |
|---|---|
| Negus, Ltd., E.C.4..... | £14,685 |
| P. & W. Anderson, Ltd., W.1..... | 13,646 |
| W. E. Davey & Co., Ltd., Southend-on-Sea ..... | 13,500 |
| C. Peppiatt, Chiswick..... | 12,980 |
| National Building Guild, Ltd., W.C.1 | 12,652 |
| Perry & Co. (Bow), Ltd., Bow..... | 11,500 |
| Geo. Bollom, Acton..... | 11,400 |
| Hooper & Hooper, N.6..... | 11,300 |
| Rowley Bros., Wood Green..... | 11,150 |
| Thos. Shillitoe, N.7 ..... | 11,000 |
| Alfred G. Winters, S.E.25..... | 8,997 |

*(Under consideration.)*

LONDON.—Erection on the Holderness Estate of an office and store with flat on top, for the Lambeth B.C. :—

*F. & H. F. Higgs..... £984

METROPOLITAN ASYLUMS BOARD :—

*River Hospitals—Installation of internal automatic tele hones—*

| | |
|---|---|
| F. Geere Howard, Ltd., W. ..... | £7,944 0 0 |
| Commercial Telephone & Electrical Co., Ltd., E.C. ..... | 6,896 18 6 |
| Electrical Contracts & Maintenance Co., Ltd., Westminster ..... | 6,800 0 0 |
| E. Shipton & Co., W.C. ..... | 6,600 0 0 |
| Automatic Telephone Manufacturing Co., Ltd., Liverpool ..... | 6,134 0 0 |
| Reliance Telephone Co., Ltd., W.C. .. | 4,996 0 0 |
| †T. Clarke & Co., Ltd., S.W. ..... | 4,600 0 0 |

*Grove Hospital—Installation of electric lighting in ward blocks, etc.—*

| | |
|---|---|
| Hill, Upton & Co., Oxford ..... | £4,239 0 0 |
| F. Geere Howard, Ltd., W. ..... | 3,878 0 0 |
| S. G. Cozens & Co., E.C. ..... | 2,750 0 0 |
| Toy & Winslow, S.W. ..... | 2,500 0 0 |
| Keeble (1914), Ltd., W. ..... | 2,375 0 0 |
| Rawlings Bros., Ltd., S.W. ..... | 2,335 0 0 |
| Thos. H. Smerdon, N.W. ..... | 2,333 0 0 |
| Myall Bros., Leigh-on-Sea ..... | 2,078 0 0 |
| G. Hopkins & Sons (Clerkenwell), Ltd., N. ..... | 2,050 0 0 |
| David Henderson, Glasgow ..... | 1,975 0 0 |
| A. F. Goodwin & Co., E. ..... | 1,885 0 0 |
| J. Briggs & Co., W. ..... | 1,872 0 0 |
| Malcolm & Allan, Ltd., W.C. ..... | 1,826 10 0 |
| Samuel Reed & Sons, S.E. ..... | 1,590 0 0 |
| Scottish Power & Electric Contracting Co., Bristol ..... | 1,532 0 0 |
| †E. Beckwith & Co., Ltd., Barking .. | 1,431 10 0 |

*Southern Hospital—Installation of continuous drying machine in laundry—*

| | |
|---|---|
| T. Hunt & Sons, Battersea ..... | £650 0 0 |
| Thomas Bradford & Co., W.C. ..... | 497 0 0 |
| James Keith & Blackman Co., Ltd., E.C. ..... | 394 5 0 |
| †W. W. Wardle & Sons, N. ..... | 375 0 0 |

*North-Western Hospital—Installation of brick-built baker's oven—*

| | |
|---|---|
| W. F. Mason, Ltd., Manchester ..... | £714 10 0 |
| H. Smith & Son, Lambeth ..... | 650 0 0 |
| F. Troy & Co., Ltd., Finchley ..... | 580 0 0 |
| Kent & Co. (Globe Works), Ltd., Bow | 570 0 0 |
| T. Hunt & Sons, Battersea ..... | 550 0 0 |
| T. D. Baker, Chingford ..... | 520 0 0 |
| T. E. Aspinall, Brighouse ..... | 500 0 0 |
| Thomas Collins & Co., Bristol ..... | 463 0 0 |
| S. W. Clapham, Willesden ..... | 449 10 0 |
| *August's Muffle Furnaces, Ltd., Halifax | 375 0 0 |

*Queen Mary's Hospital—Alterations and additions to scullery of nurses' messroom—*

| | |
|---|---|
| Hayward Bros., S.W. ..... | £560 0 0 |
| R. H. Simpson, S.W. ..... | 458 14 8 |
| Chas. Owen & Co. (1921), Ltd., Wallington ..... | 407 0 0 |
| Burnand & Pickett, Ltd., Wallington | 378 15 0 |
| A. E. Hatton, N.W. ..... | 309 18 0 |
| Douglass, Halse & Co., Ltd., Woolwich | 292 11 9 |
| Alfred A. Secrett, Ltd., Wallington .. | 247 6 6 |

*River Hospitals—Cleaning, painting and repairs—*

| | |
|---|---|
| R. Merton Hughes, W. ..... | £10,991 0 0 |
| Walter Lilly & Co., S.W. ..... | 8,390 0 0 |
| Albert Knowles, Farningham ..... | 7,789 14 10 |
| O. M. Keevil, Dartford ..... | 6,996 8 10 |
| W. Hussey, S.W. ..... | 6,978 0 9 |
| Worman & Hussey, W. ..... | 6,885 0 0 |
| W. Bickerton, S.E. ..... | 6,836 0 0 |
| D. C. Bowyer, Belvedere ..... | 6,754 5 2 |
| M. Greenwood & Son (Burnley), Ltd., N.W. ..... | 6,636 4 5½ |
| L. Kazak, N.W. ..... | 6,231 15 0 |
| J. Scott Fenn, S.E. ..... | 5,887 4 9 |
| †Thomas H. Jones, South Farnborough | 5,207 6 8 |

*Darenth Training Colony—Repairs to the gasworks—*

| | |
|---|---|
| R. Dempster & Sons, Ltd. ..... | £1,327 0 0 |
| Gibbons Bros., Ltd. ..... | 1,324 0 0 |
| Sugden & Co. ..... | 1,273 10 0 |
| †Drakes, Ltd. ..... | 1,157 10 0 |

MILL HILL (MIDDLESEX).—For erection of new wing and alterations and additions to school buildings, for Mr. A. J. B. Roberts. Mr. John C. Soutar, architect, "Wyldes," North End, Hampstead, N.W.; quantities by Mr. E. J. Fairchild, F.S.I., 10, John-street, Adelphi, W.C. :—

| | |
|---|---|
| Holland & Hannen & Cubitts, Ltd., London ..... | £9,965 |
| W. Gibson & Co., Golder's Green .... | 9,640 |
| Allen Fairhead & Sons, Enfield ..... | 9,567 |
| Higgs & Hill, Ltd., London ..... | 9,544 |
| Prestige & Co., Ltd., London ..... | 9,360 |
| *Miskin & Sons, Ltd., St. Albans .... | 9,100 |

NEWCASTLE-ON-TYNE.—For erection of 36 houses in flats in Watson-street, Walker Estate, for the T.C. :—

*Henry Kelly ..... £8,900

NEWPORT (MON.).—For the erection of 52 houses on the Lowerton Housing site, for the Corporation :—

*Messrs. King & Co., Newport..... £18,348

NORTHAMPTON.—For the erection of 20 subsidy houses (type, non-parlour, two-bedroom) on Far Cotton Estate :—

*W. Fisher, Northampton..... £6,350

For the erection of 16 subsidy houses of similar type on Abington Estate :—

*Messrs. A. L. & H. W. Chown, Northampton ..... £5,104

For the erection of 20 non-subsidy houses (type, non-parlour, two-bedroom), Abington Estate :—

*Messrs. A. L. & H. W. Chown, Northampton ..... £6,380

For the erection of 20 non-subsidy houses of similar type, Far Cotton Estate :—

*W. Fisher, Northampton..... £6,350

For the erection of 26 non-subsidy houses (type A3, parlour, three-bedroom), and 24 houses (type B3, non-parlour, three-bedroom) on the Abington Estate; and 34 non-subsidy houses A3 type, and 18 houses B3 type, on the Far Cotton Estate—102 houses in all :—

*Messrs. H. Boot & Sons (London), Ltd., £36,480

All the above are for the T.C.

NORTHAMPTON.—For repairs to roads on Alexandra Park estate, for the T.C. :—

*Mr. G. B. Heap, Northampton.. £1,621 18 6

NORTHAMPTON.—For the supply of nine tons of 4 in. water piping for water mains, for the T.C. :—

*The Staveley Coal and Iron Co., Ltd. £10 1s. 6d. per ton.

NORTHAMPTON.—For lightweight tramcar top cover for experimental purposes, for the T.C. :—

Messrs. Dick Kerr & Co. ..... £300
*The Brush Electrical Co., Ltd. ..... 270

NORTHAMPTON.—For the relaying of the double tramway track from Palmerston-road to Barry-road, and single track from Barry-road to Rosehold-road, new rails to be used throughout, for the T.C. :—

*Messrs. A. Stark & Co., Ltd., Glasgow ..... £5,970 16

OXFORD.—For the erection of public baths in Paradise-square, for the T.C. :—

*Coppock & Roberts..... £1,698

PAIGNTON.—For the erection of governor house for the Paignton Gas Company. Messrs. W. G. Couldrey & Son, M.S.A., A.R.I.B.A., architects, Paignton. Quantities by Mr. G. S. Harris, 36, Hyde-road, Paignton, and Fleet Chambers, Torquay :—

| | |
|---|---|
| Willcocks & Barnes, Paignton .. | £689 10 0 |
| W. H. Webber, Paignton .... | 687 0 0 |
| H. T. Drew, Paignton ..... | 677 0 0 |
| T. Vanstone & Sons, Torquay .. | 587 10 0 |
| R. E. Narracott, Torquay ..... | 548 10 0 |
| S. Batten, Paignton ..... | 497 10 0 |
| R. F. Yeo & Sons, Torquay .... | 483 0 0 |
| *E. P. Bovey & Sons, Torquay .. | 479 0 0 |

PLYMOUTH.—For erection of 68 houses, for the T.C. Mr. T. Peirson Frank, Borough Surveyor, Municipal Offices, Plymouth :—

*William T. Pearce, Mt. Pleasant Buildyard, Plymouth—
36 Type "A" (3 bedrooms) £393 19 10
32 Type "B" (3 bedrooms) 413 0 2

**Concrete block construction, with plinth quoins, and string course without rough cast.*

PONTYPRIDD.—For painting of schools, for the Pontypridd Education Committee :—

*Hawthorn and Lanwood Schools—*
*Mr. J. Ferris, Pontypridd ..... £211 15 0
*Wood-road School—*
*F. C. Roberts, Pontypridd.... 229 10 0
*Trallwn Schools—*
*A. E. Jones, Trallwn..... 105 0 0

SALFORD.—Supply of 300 tons of lime, to the T.C. :—

*Buxton Lime Firm's Co..... £545

SALFORD.—For the erection of transformer substation at Stott-lane, Pendleton, for the T.C. :—

*J. Chapman & Sons..... £405 18

SALFORD.—Supply and erection of fencing and entrance gates at Nab Top Sanatorium, for the T.C. :—
*Geo. Roylance, Salford..... £435

SALFORD.—Supply of boiler and feed pump at Model Lodging house, for the T.C. :—
*R. G. Dixon, Manchester..... £156 15

SALFORD.—Supply and erection of 20-ton weighbridge at Albion-street Gasworks, for the T.C. :—
*W. Hodgson & Sons, Salford..... £413

SALFORD.—Making-up footpaths and carriageways at Littleton housing site, for the T.C. :—
*A. Monks & Co..... £2,802 10 10

SOUTHAMPTON.—For alterations to 20, Carlton-crescent, for proposed ex-service men's club (second contract). Messrs. Hair & Bird, architects, 23, Portland-terrace, Southampton :—

| | Alterations. | Electric Light. | Totals. |
|---|---|---|---|
| Jukes & Son, Southampton | £289 .. | £63 0 .. | £352 |
| Playfair & Toole, Southampton | 265 .. | — .. | — |
| Jenkins & Sons, Southampton | 256 .. | 60 0 .. | 316 |
| Udall & Co., Southampton | 247 .. | 58 0 .. | 305 |
| Robinson & Coates, Southampton | — .. | 57 17 .. | — |
| *Fussell, Southampton .... | 235 .. | 50 0 .. | 285 |

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SOUTHWARK.—For internal cleaning and painting works, the formation of linen rooms, the provision of new flooring and wall tiling, &c., at the Hospital, East Dulwich-grove, S.E., for the Guardians. Messrs. A. Saxon Snell & Phillips, 9, Bentinck-street, W.1, Quantities by Mr. W. C. Moore, Essex-street, Strand, W.C. :—

| | |
|---|---|
| W. S. Barton & Co., Chancery-lane | £3,826 0 0 |
| Geo. Hill & Son, Streatham | 3,666 6 1 |
| Chappell, Elgin-avenue | 3,447 0 8 |
| Lane Bros., Kensington | 3,391 0 0 |
| Brown & Son, Herne Hill | 3,354 0 0 |
| Arding & Hobbs, Clapham Junction | 3,301 0 0 |
| A. Phelps & Wilton, Streatham | 3,215 0 0 |
| Styles & Son, Herne Hill | 3,205 0 0 |
| Willatts, Gray's Inn-road | 3,164 1 4 |
| Edwards Construction Co., Eltham | 3,153 10 0 |
| Vigor & Co. (Poplar), Poplar | 3,044 0 0 |
| Prestige & Co., Grosvenor-road | 3,010 0 0 |
| Woollaston & Co., Limehouse | 2,953 16 11 |
| Marsland & Sons, South Molton-street | 2,938 0 0 |
| Bickerton, Catford | 2,912 0 0 |
| W. Lilly & Co., Eaton-square | 2,851 0 0 |
| *A. H. Inns, Bishopsgate | 2,727 0 0 |

* *Accepted less £744 for works not to be done. Total of contract*, £1,983.

TENTERDEN.—For addition to "Brown's Corner," for Mr. C. R. Matthews. Mr. A. H. Burtenshaw, F.S.I., F.A.I., Tenterden :—

| | |
|---|---|
| W. P. Woodgate | £495 10 |
| W. Elliott & Son | 490 0 |
| *R. Weeks & Sons | 433 10 |

TENTERDEN.—For the erection of the carcase of a detached house at St. Michael's, Tenterden, for Mr. C. W. Bassant. Mr. A. H. Burtenshaw F.S.I. F.A.I., Tenterden :—

| | |
|---|---|
| C. T. Pearson | £2,000 |
| R. Bridge | 1,365 |
| R. Weeks & Sons | 1,285 |
| *W. P. Woodgate | 1,195 |

WARWICK.—For addition of billiard room, &c., at Hascley House, near Warwick, for Mr. J. Leslie Wright. Mr. C. M. C. Armstrong, F.R.I.B.A., architect, 5, High-street, Warwick :—

| | |
|---|---|
| J. G. Fincher & Co., Stratford-on-Avon | £1,666 |
| Foster & Dicksee, Rugby | 1,569 |
| *R. Bowen, Leamington | 1,497 |

WOODBRIDGE.—For repainting and repairs to buildings at Woodbridge Hospital, for the Guildford, Godalming and Woking Joint Hospital Board :—
*A. Durrant, Stoughton ..... £354 3 3

WOLVERHAMPTON.—For painting roof of turbine room at generating station, for the T.C. :—
*A. M. Griffiths..... £127 10


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WOLVERHAMPTON.—For road making and sewage work on Oxley Estate, for the T.C. :—
*M. A. Boswell..... £432 8 7

WOLVERHAMPTON.—For painting work at Town Hall, for the T.C. :—
*W. Gough..... £108 10


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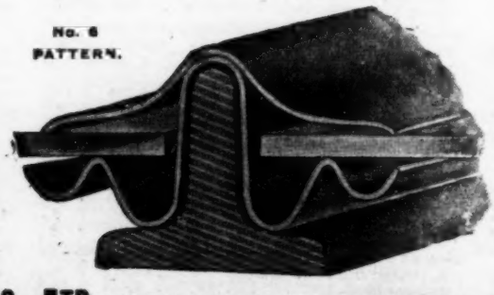
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